



To:

Dundee Precious Metals

SLR Consulting

Environmental Commissioner

EBRD

Tsumeb Municipality

**Re: ESIA Amendment Process for the Proposed Tsumeb -**

**Round Of Comments On Smelter Upgrade and Optimisation Project:  
Environmental Impact Assessment Report**

**We welcome the efforts of DPMT to provide and SLR Consulting to collect and assess the available information and reports on the environmental conditions at the smelter site and the nearest territories, on the community health and social issues and the DPMT management of the smelter facilities. We appreciate the information given in the document.**

**After detailed review of the available information and documentation on the ESIA for the proposed Tsumeb smelter upgrade and optimisation we have the following observations and recommendations. For better understanding our related comments we did cut and paste the relevant text given in the EISA outlining the shortcomings in the management of the smelter, although this makes our submission quite long.**

**Community, environmental and social issues**

**The data presented in the ESIA and the appendices show a severe contamination of the soils with arsenic and other hazardous components.**

*„There are significant contamination levels on the smelter property and surrounds due to historic mining and smelter operations and legacy waste stockpiles. Although it is acknowledged that the current DPMT smelter operations, since DPMT purchased the facility in 2010, have contributed to and continue to contribute to the overall contamination load, the majority of the measured contamination levels are attributable to historic operations.” P. 4-21*

**They also show that this contamination continues and migrate as** „The area around Tsumeb is predominantly karstic, which means that it is formed from the dissolution of soluble base rock (mainly dolomite and limestone in this area) which is characterised by underground drainage systems with sink holes and caves.”

**The updated groundwater model from March 2016 shows that:**

*“The pH condition existing at the site is conducive to precipitation of arsenic in the presence of iron containing minerals. The iron saturation in the aquifer is not high enough to cause significant precipitation of arsenic on-site and the fact that a legacy of more than 100 years of contamination exists, would have caused the system to have reached equilibrium on-site. This means that very little arsenic is being captured in the aquifer on-site, leading to contamination moving off-site;*

*The arsenic plume prediction was run for the year 2038, and showed that the plume will continue to migrate to the north, with off-site boreholes closer to the site potentially ending up with arsenic concentrations higher than the Namibian drinking water limit of 0.3 mg/l. It is also stated that the modelled predictions could be too low, due to the uncertainty related to existence of fractures, faults and other geological structures. (Figure 17).” P. 29*

**The assessment of the emissions in the air shows at the base scenario (current situation)** “SO<sub>2</sub>, PM<sub>10</sub>, arsenic and H<sub>2</sub>SO<sub>4</sub> emissions were estimated at 41 316 t/a, 520 t/a, 42.8 t/a and 12.7 t/a respectively”. **Despite the interpretation of the authors that** “the impact of arsenic on the receiving environment and nearby AQSRs (air quality sensitive receptors) was found to be at the upper level of what might be considered acceptable, from a non-carcinogenic and carcinogenic inhalation health exposure perspective.

*Based on the above findings, the severity of the potential health risk to AQSRs in the Tsumeb area due to the proposed increased throughput capacity of the smelter is considered to be medium, since exceedance of the assessment criteria at AQSRs would occur given current performance levels of the sulphuric acid plant and fugitive emissions management systems. With mitigation, impact severity may be reduced to low-medium”,*

**no one should deny that these quantities of emissions, currently accumulated in the bodies of Tsumeb citizens and the soils, increase the exposition to harmful substances.**

**The Figure 7-8 on p. 7-18 regarding the lifetime cancer risk related to arsenic inhalation exposure is interpreted in the ESIA as medium risk for the smelter site and low risk for the city of Tsumeb, but if we look at the figure we see that the smelter site is under high risk (0,1-0,001 µg/m<sup>3</sup>) and half of the city falls in the medium risk zone (0,001-0,0001 µg/m<sup>3</sup>) according WHO URF standard for pollutant concentration.**

**The findings of the health report show that some of this arsenic is** “being brought home on clothes, shoes, bags and vehicles and other objects, and finding

*its way probably via the hand-to-mouth route and ingestion to household members”.*

**It also shows that the arsenic at the neighbourhood closer to the smelter comes from the homegrown food.**

*“It is highly likely that the soil is a source of arsenic exposure both from legacy emissions and from current emissions, especially for Ondundu which is proximate to the waste disposal site.”*

**And the ESIA concludes** *“As the results of the investigation showed that arsenic in airborne  $PM_{10}$  and in drinking water could not be responsible for the elevated urine arsenic levels in earlier samples from Ondundu, attention must be directed to arsenic in dust from roadways and garden soil, arsenic in vegetables and fruit grown locally in Ondundu, and hand to mouth behaviour by both children and adults resulting in arsenic ingestion.”* **recommending to stop collecting wild fruits and herbs and grow food at home. Of course, there is no other arsenic source of contamination than the smelter operations and, of course, the people stopping to grow food at home will increase the economic activity by buying their fruits and vegetables at the market, but we don’t think that this is socially fair.**

**The conclusions on the health effect of the arsenic exposure are the following** *“Assuming that the population of Tsumeb is 25 000, we could expect a background of 183 lifetime lung cancer cases, which would go up to 189, which is an additional 6 lifetime cases”* and *“This is considered to be a very low risk and would for practical purposes be unmeasurable in the case of Tsumeb. Probably given historical exposures all of this is an underestimate of the true risk. Also exposures for some people in some areas may be higher than those measured by the 2 monitoring stations in North-Central town. They would however be less than an order of magnitude higher for a very small proportion of the total Tsumeb population.”*

**Fact is that the legacy of the smelter and the current operation put additional pollution burden and, in that way, deteriorate the life quality of the affected people. This is the main subject of concern as all studies show that the emission will increase drastically with the increase of the production capacity of the smelter as underlined by the health report and the social assessment.**

*“The increase in production throughput is unlikely introduce a new hazard but may increase the exposures to hazards already present, including arsenic,  $SO_2$ , noise and fatigue”* **and calculated at the other documents** *“At a processing rate of 370 000 t/a,  $SO_2$ ,  $PM_{10}$ , arsenic and  $H_2SO_4$  emissions were estimated to increase to 64 652 t/a, 620 t/a, 65.9 t/a and 18.1 t/a respectively”* **or  $SO_2$  emissions will increase by 53%,  $PM_{10}$  emissions are expected to increase by 19%, arsenic emissions by 54% and  $H_2SO_4$  emissions by 42%.**

**From an economic perspective such increase of the capacity probably will be beneficial for the company, but from a social perspective the benefits are negligible since no new workplaces will be created. Anyway, the entire employment rate of the smelter of 667 people (550 in the health report), even if “the largest single employer in Tsumeb” is a really small number**

compared to the Tsumeb population estimated of 25 000. In 2012, the unemployment rate of Tsumeb was 36% significantly bigger than the entire Oshikoto region with 26.4%.

### **Environmental issues connected to the current smelter operations**

Since the acquisition of the smelter by DPM in 2010 modernizations and improvements have been implemented, however several important problematic issues continue to persist and most of them are well described in the document. Some of the reasons are the legacy of the pollution but some others are related to management issues at different level.

**Regarding the occupational health issue the conclusions are clear:** *“Whilst DPM has invested substantial sums in capital improvements in the smelter, and there has been longitudinal improvement in exposures since 2011, the arsenic biomonitoring data indicates that the general level of improvement, with a few exceptions (Power Plant), is not sufficient to meet either international or Namibian standards for arsenic workplace exposures.”*

*“The PPE / respiratory protection program that has been the mainstay of exposure control to date has only met with partial success; the urine arsenic biomonitoring data demonstrates that the PPE is not providing a sufficient level of worker protection.”*

*“The current exposure situation at the smelter is accumulating significant future risks and liabilities by way of a potential burden of future adverse medical outcomes, i.e. lung cancer. Whether work-related lung cancer cases have occurred is unknown and probably unknowable due to limitations in the Namibian medical surveillance system. There is therefore an appreciable occupational lung cancer risk on average for the plant as a whole.”*

**The hazardous waste disposal site, despite its :”design and construction according the best practices”, poses serious problems, some are subject of day to day management as described below:**

*“No evidence was provided to SLR of the current classification of wastes at the Tsumeb Smelter in terms of the WCMR, although there was some evidence of certain of the waste having been assessed in terms of the Minimum Requirements for Waste Disposal by Landfill (2nd Ed, 1998). Such prior classification remained valid in terms of the WCMR until August 2016. However all wastes are now required to be classified (or reclassified) in terms of the WCMR. Neither was there evidence of Safety Data Sheets for the hazardous wastes generated at the Tsumeb Smelter. The relevant classification results for each waste stream and the date completed should be documented in the Waste Register.”*

*“The arsenic dust is ‘disposed’ of at the hazardous waste site and not ‘stored’ on site as indicated. Any storage of the arsenic wastes prior to disposal should only be done in a bunded area. The procedure should specify that waste handling and*

*disposal operations for the arsenic dust and bags must be undertaken in terms of the DPMT Hazardous Waste Disposal Site Operations Manual.”*

*“Arsenic cages and bags: It should be specified that these are hazardous wastes and need to be appropriately managed. Storage of the bags and cages needs to be in bunded areas or under roof. The procedure for storing and handling these should be updated to reflect this. Restrictions should be placed on where and how these cages are cleaned as the wash bay is presumably not designed to manage hazardous material residues. If disposed to the hazardous waste site then reference the Hazardous Waste Disposal Site Operations Manual.”*

**The main problem refers to the top level decision made by the company, namely to export the copper concentrate from Bulgaria, where the treatment is prohibited because of the high arsenic content, the transportation through half of the world and the deposition of the arsenic in Namibian territory. Two years ago, the company pretended that this arsenic is not a deposited waste, but a resource which is stored and sold abroad as a by-product for production of pesticides and substances for wood treatment. Already at that time it was clear that the exported quantities of arsenic are only a small part of the entire production and that the biggest portion is left in Tsumeb HWDS in old sugar bags under the weather conditions. We alarmed the company that the arsenic is accumulated in accelerated terms much faster than the initial plan indicated. The company denied this issue, but the ESIA report now confirms that the arsenic dust is disposed over a long period of time and that the capacity of the waste disposal site , after the upgrade of the smelter increasing the quantities by 80%, will be exhausted in eight years time.**

**Other waste issues well described in Appendix D “Waste Management Review”:**

*“General waste handling area:*

*The current general waste handling area is a significant cause of concern and its operation is likely to be resulting in impacts to the environment as well as occupational health risks. Other than being fenced, the site has no facilities to enable the appropriate management of general waste (also see Section 4.1). The site is considered by DPMT as a ‘general waste site’ and yet there was evidence of various hazardous wastes within the waste stream, as well as active management of these hazardous waste streams (separation of Tyvek suits and other materials). See Plate. This approach is not considered to be in line with responsible best practice waste management, as general and hazardous wastes should be managed separately from source. It is recommended that the source practices which are resulting in hazardous wastes being included in the general waste stream be altered immediately. No hazardous wastes should be delivered to the general waste handling area, OR the general waste site handling area could be upgraded to include a dedicated area and facilities (bunded and under roof) for the storage and handling of hazardous wastes.”*



*“The second concern is that the general waste handling area is being operated for the:*

- storage of unsorted wastes;*
- for the undertaking of sorting;*
- for the storage of sorted wastes;*
- for waste burning, and*
- for the disposal of ash from the burning of waste.*

*This combination of activities at a site with no facilities, and which is subject to limited management, is considered the incorrect approach. The general waste handling area does not have any waste management facilities and none of the site aspects or its operations are in line with best practice for waste management. **The latter two practices in particular are inadequate and would be considered unlawful in Namibian and South African law,** unless specifically licensed. Management and operations of this general waste handling area need to be revised as a soon as possible and a waste disposal solution added.”*

*“The residual portion of the waste stream requiring disposal should be subject to improved management. Open air burning of such wastes is not an acceptable waste management solution and should be stopped immediately. An alternative, improved solution must be implemented for the disposal of residual waste. If such burning were to continue in the short-term (for practical reasons) then the disposal of the resultant ash onto the ground at the general waste handling area must be stopped immediately. The ash has the potential to be hazardous and it is recommended that it should be disposed to the Hazardous Waste Site.”*

**The environmental clearance of the General Waste Landfill Site was valid for a period of 3 years and has now expired.**

**There are several surface and groundwater issues identified in the report.**

**- Abstraction and discharge without the necessary permits**

*“Requests have been made to the Client for details of any abstraction and discharge permits that are in the possession of DPMT for the smelter site. It is known that relatively large volumes of water are abstracted from Mine Shaft 1 (current installed pumping capacity of about 300 m<sup>3</sup>/h) for use at the smelter site (Worley Parsons, 2015), but no abstraction permits has been approved for this. It is also known that the new sewage treatment plant discharges to the reed beds, but no discharge permit has been awarded for this or other effluent discharged on site. Requests have been made to the Client for abstraction and discharge data, but none has been provided at this stage while the water balance is being updated, but not available yet.” P.18*

**- Risks connected to the operation of the sewage plant**

*“It is understood that the sewage plant is relatively new and therefore anticipated to be adequate to*

manage the sewage requirements of the DPMT. The plant was however not operational at the time of the site visit due to hydrocarbons entering the sewage system and potentially damaging the infrastructure. Thus untreated effluent was being pumped to a lagoon/reed bed near the calcine dump. Residual sludges are to be dried on evaporation pads. The source of the hydrocarbons in the sewage is subject to an investigation. The sewage plant should be restored to operation as soon as is possible. **The untreated effluent is likely to be a health and safety risk and the area should be adequately signed and possibly fenced. There are also risks of surface and groundwater contamination from the faecal content as well as from heavy metals.**

- **Despite the work already done, improvement of the groundwater model and better monitoring system is needed**

*“The current groundwater model for DPMT is very simplistic and can be regarded as a low confidence, high level model. An improved model that accounts for the more complicated geology of the area and that relies on new boreholes (still to be drilled) to provide water level, geological, geophysical and chemical data, need to be developed for more accurate predictions on plume migration and the impact of groundwater abstraction.”*

- **A more effective storm water system is needed**

*“Two storm water management reports were submitted to the Client by Aurecon in 2013. The first Aurecon report (September 2013) focused on the condition assessment and capacity of the storm water network, while the second report (October 2013) investigated possible drainage solutions to deal with the storm water problems experienced on site. **It is understood that the Client plans to start to implement parts of this storm water plan in a phased approach over the next few years.**”*

*“It is understood that the clean **water diversion berm may not be implemented as the cost is too high** (Table 6, No. 4). This then means that the entire contact water system will need to be re-designed to account for the additional storm water runoff which will flow onto the site from the upper catchment area.”*

**Obviously, the company has decided to not take into account all recommendations from the Aurecon report by reducing some elements of the system and spreading the implementation for “next few years” which poses the following problems:**

*“Problems have been experienced with silting of the storm water system and some of the infrastructure is inadequate for the generated runoff, resulting in ponding of runoff at a number of identified sites around the plant after storm events (see Figure 29).”p52*

*“However, Table 6 indicates the current status with regard to the Aurecon storm water management recommendations, which suggests that the phased approach*

*may be only partial and spread over a number of years, which will result in an increased likelihood of storm water problems in the short-term. Of serious concern is the cancelling of the clean water (non-contact) separation diversion berm and channel, as this will allow a significant volume of additional storm water to access the main plant area, which will overload the planned dirty water gravity collectors and PCD ('s) unless these are upgraded to cope with the additional runoff from the east of the plant, which was to be channeled away from the plant area by the diversion berm and clean water channel."*

**Substantial elements missing in the ESIA - both the operation and transport from the Kliplime quarry or Walvis Bay are not properly assessed and those should be added in the report.**

### **Access to information**

**The access to information seems a seriously problematic issue both for DPM and the national authorities.**

**As environmental protection organizations we were striving to obtain information on the Environmental Clearance Certificates of the already implemented improvements of the smelter, the requirements set by these ECCs and any evidence that the relevant authorities monitor and control the implementation of them. From 2014, such information was required through intensive communication to DPM management staff ranging from the vice-presidents to the environmental officer in Tsumeb (including a visit to the smelter) and, until now, the result was close to zero with different, sometimes ridiculous explanations and, surprisingly, we confronted the same secrecy from the responsible national authorities at MET and especially from the Environmental Commissioner.**

**In the current documentation, such information is also not available. Only the ECC from 2016 regarding the approval of the Environmental Management Plan is attached as Appendix A, and hereof only the stamped and signed front page without any detailed explanation or the conditions and requirements under which the certificate was issued. Even more, the short text of the certificate states that "*...this clearance letter does not in any way hold Ministry of Environment and Tourism accountable for misleading information nor any adverse effect that may arise from this project activity*" which practically means that the competent authority issued the ECC on a documentary basis without thorough examination and verification of the approved activities.**



In that way, the interested or the affected public is impeded to assess what operations and activities are allowed, what are not, and how these are implemented and what is the level of control of the competent authorities.

Since the custom of publication of such documents in electronic format on the company's and / or the competent authority's webpages is rather well known and largely adopted good practice, we asked by means of an official letter in 2015 both DPM and MET to release both the Environmental Assessment Reports and the ECC issued. Until this moment this good administrative practice was not implemented.

As it was said by company representatives during the public hearings that *"We strive to be as transparent as possible"* and *"This EIA report is available on request to DPMT (regarding the 2012 hazardous waste site EIA)"* we demand that this international company get in line with the international best practices in Namibia too. It cannot be tolerated that African countries are treated with less respect and less strict standards!

### Legal issues connected to the DPMT operations

- The main concern is the dumping of arsenic dust for long term periods

According the Annex I of the Basel Convention on the control of hazardous wastes and their disposal, the content of the HWDS should be classified as category Y24 - hazardous waste containing arsenic and arsenic compounds. The disposal of hazardous waste at DPMT breaches Art. 95 (k) of the Namibian Constitution **"Promotion of the Welfare of the People"** which requires *"... the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory"*. **If until now the company pretended that the HWDS is a temporary storage of the arsenic as a sellable by-product and obtained a permit on this basis, the current report reveals that the HWDS will be used for a long term disposal of the hazardous waste which cannot be further tolerated.**

The ESIA mentions better waste practice as the vitrification: *"DPMT are also currently investigating vitrification of the flue dust which would render it non-hazardous, and saleable, resulting in a reduction in the volume of hazardous waste to be disposed of."* **The ongoing ESIA procedure should be complemented**

with the results of this investigation, as well as other possible best practices and finally such an option should be chosen.

- **Permitting and control**

The approach of the company to proceed with separate permits for each of the modernization projects is a bad practice called “salami approach”, which approves each facility without holistic assessment. We understand that the initial bad conditions and legacy of the smelter may have triggered such approach and we welcome the company’s determination to change the approach with the current procedure.

However, this approach until now, despite the improvements, resulted in a number of unlawful practices, operation without the necessary permits and activities which were permitted but not implemented as identified in the ESIA report. This poses environmental and social risks of deterioration in addition to the legacy issues.

The fact that these issues were identified by external experts and not through inspections of the competent authorities poses again the relevant question on the manner in which the competent authority approves the operations and the lack of proper and systematic control by the State. These practices should cease and the competent authorities should execute systematic control and not allow any further deterioration due to smelter operations.

**EBRD performance requirements**

The ESIA report refers to the performance requirements of the EBRD. This is a good approach as it improves the quality of the entire procedure. However, the described deficiencies above show that the company does not comply fully with these requirements. In some cases, it takes into account only part of them, in other cases proposed measures are not adopted as considered too costly, and in cases as the waste classification are not fulfilled at all.

*„As requested by DPMT, the current ESIA process has taken Process Requirements (PR) of the European Bank for Reconstruction and Development (EBRD) into consideration in the compilation of this report and structuring of the public participation process. The EBRD PRs provide a solid base for a company to improve the sustainability of its business operations and to ensure that it operates in compliance with good international practices relating to sustainable development ([www.ebrd.com](http://www.ebrd.com)). PR 1 relates to the Assessment and Management of Environmental and Social Impacts and Issues. This PR establishes the importance of integrated assessment in order to identify the environmental and social impacts and issues associated with projects and the client’s management of environmental and social performance through the lifecycle of the project (PR 1 - EBRD, 2014). This PR as well as the rest of the ten PR documents were considered by SLR and the relevant independent specialists in undertaking their assessments.”*

As a company with international reach, it is advocated that DPMT should also give consideration to the European Bank for Reconstruction and Development's performance requirements with relevance to waste management. This includes Performance Requirement (PR) 3: Resource Efficiency and Pollution Prevention and Control which is explained as follows:

- The Performance Requirement recognises that increased economic activity and urbanisation can generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels.

Therefore, resource efficiency and pollution prevention and control are essential elements of environmental and social sustainability and projects must meet good international practice in this regard. This PR outlines a project-level approach to resource management and pollution prevention and control, building on the mitigation hierarchy, the principle that environmental

damage should as a priority be rectified at its source, and the "polluter pays" principle. The project-related impacts and issues associated with resource use, and the generation of waste and emissions need to be assessed in the context of project location and local environmental conditions

- Avoid or minimise the generation of hazardous and non-hazardous waste materials and reduce their harmfulness as far as practicable. Where waste generation cannot be avoided but has been minimised, reuse, recycle or recover waste, or use it as a source of energy; where waste cannot be recovered or reused, treat and dispose of it in an environmentally sound manner.

If the generated waste is considered hazardous, assess technically and financially feasible and cost-effective alternatives for its environmentally sound disposal considering the limitations applicable to transboundary movement and other legal requirements.

- When waste disposal is transferred offsite and/or conducted by third parties, obtain chain of custody documentation to the final destination and use contractors that are reputable and legitimate enterprises licensed by the relevant regulatory agencies. Also ascertain whether licensed disposal sites are being operated to acceptable standards. Where this is not the case, consider alternative disposal options, including the possibility of developing own recovery and disposal facilities at the project site.

The EBRD PR3 Section 18 notes that "For projects with a high water demand (greater than 5,000 m<sup>3</sup>/day), the following must be applied:

- a detailed water balance must be developed, maintained and reported annually to the EBRD".

*"From discussions with the Client it appears that a dynamic water balance is being completed by Golder, which **should be finalised in the near future**, so no detailed calculations for the water balance situation will be made here.*

*It is unclear what the current daily water demand is running at, but the Golder dynamic water balance will provide an initial means to comply with this EBRD requirement."*

**The Aurecon report complies with EBRD PR4 Health and Safety, Section 31 (Natural hazards), which stipulates "The client will identify and assess the potential impacts and risks caused by natural hazards, such as earthquakes, landslides or floods as these relate to the project."**

*"Two storm water management reports were submitted to the Client by Aurecon in 2013. The first Aurecon report (September 2013) focused on the condition assessment and capacity of the storm water network, while the second report (October 2013) investigated possible drainage solutions to deal with the storm water problems experienced on site. **It is understood that the Client plans to start to implement parts of this storm water plan in a phased approach over the next few years.**" (see Table 6).*

*"It is understood that the clean **water diversion berm may not be implemented as the cost is too high** (Table 6, No. 4). This then means that the entire contact water system will need to be re-designed to account for the additional storm water runoff which will flow onto the site from the upper catchment area. It is also understood that the Client has decided to construct two PCD's adjacent to each other (to spread the capital expenditure), as well as to line Dam 10 after the first PCD is commissioned."*

*"The surface water impact assessment has therefore proceeded assuming that the new storm water infrastructure mentioned above and suitable management procedures will be in place in the medium term."*

**The groundwater monitoring network as well as groundwater modelling studies address EBRD PR3 Section 19 which states**

**"The client will need to consider the potential cumulative impacts of water abstraction upon third party users and local ecosystems. Where relevant, the client will assess the impacts of its activities on the water supply to third parties and will need to demonstrate that its proposed water supply will not have adverse impacts on the water resources crucial to third parties or to sensitive ecosystems. As part of the client's environmental assessment process, the client will identify and implement appropriate mitigation measures that favour the prevention or avoidance of risks and impacts over minimisation and reduction in line with the mitigation hierarchy approach and good international practise."**

*"The current groundwater model for DPMT is very simplistic and can be regarded as a low confidence, high level model. An improved model that accounts for the more complicated geology of the area and that relies on new boreholes (still to be drilled) to provide water level, geological, geophysical and chemical data, need to be developed for more accurate predictions on plume migration and the impact of groundwater abstraction."*

Further recommendations on the ESIA report

1. The proposed increase of the smelter capacity is proved to have significant increase of the emitted pollutants. Taking into account the legacy of pollution which is still not remediated, continue to migrate in a karst underground and poses immediate risk to public health and the environment **we recommend that such increase should be approved only if implemented together with a massive remediation program of soils and underground waters.** This is a matter of citizen's interest and both the State and the company should invest in it, but the company must take even further steps making sure to find a long term solution to its ever increasing amounts of toxic waste (each year of work of the smelter equals 4-5 years of the arsenic pollution at the previous capacity prior to DPM ownership - this is monstrous ticking ecological timebomb).
2. We recommend the competent authorities **to not approve the ESIA report before the proper assessment and confirmed engagement of the company to adopt and implement technology which will convert the arsenic waste into a non-hazardous material.** The current HWDS should be used as a temporary storage of the hazardous waste, but not as a final solution for disposal - this dumpsite cannot remain there to be dealt with on the expense of the Namibians if DPM is not there in awhile.
3. A number of ongoing studies is mentioned in the ESIA report. Preliminary results of some of them are reflected in the current report, but some others not. **We recommend that the ESIA should not be approved before the finalization of these studies and integration of their results in the report.** Some of these studies as the Contaminated Land Assessment should be used as a basis for the above mentioned remediation program.
4. To increase the transparency, we recommend that all previous ECC and EIA reports to be published in electronic format on the DPMT and MET websites.
5. An extensive medical investigation regarding the state of health of the residents of Tsumeb especially the workers should be done by independent experts in order to evaluate a possible increase in cancer cases and other serious diseases probably caused by the activities of the copper smelter over many decades. This should include retrospective assessment of previous studies both on health of workers and citizens as well as pollutant monitoring data.

**To put it straight - under the current situation Za Zemiata - Friends Of The Earth Bulgaria, Earthlife Namibia and CEE Bankwatch Network**





**consider that the very operations of this smelter at the moment do not cover properly the environmental standards and are not acceptable. Let alone plan for the expansion of the smelter of such scale!**

Feedback can be sent to:

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