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Dear Sir,

**COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED FERROCHROME / FERROALLOYS SMELTER PLANT (“THE PROJECT”) WITHIN THE MUSINA-MAKHADO SPECIAL ECONOMIC ZONE (“MMSEZ”)**

**INTRODUCTION**

1. We confirm that we act on behalf of The Herd Reserve, Living Limpopo, and the Centre for Applied Legal Studies (“our clients”).
2. Our clients set out their comments under the main grounds below.

**FATAL FLAWS**

3. It is important to establish whether there are aspects of a proposed project that are either technically flawed or have the potential to give rise to significant or unacceptable environmental consequences. These are often termed ‘fatal flaws’. Fatal flaws constitute critical vulnerabilities that, if left unaddressed, could lead to insurmountable obstacles for the project.
4. In identifying the key issues<sup>1</sup>, the Report states that “[n]o environmental or socio-economic flaws have been identified for the proposed project to date.

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<sup>1</sup> Page 20 and 21 of the Report.

5. However, there are several glaring flaws faced with the development of the Project, all of which are potentially fatal:

### Lack of Water

6. The Project is unfeasible because there is no sustainable and reliable water source. The MMSEZ will require 100 million m<sup>3</sup> of water per annum for its operation, dwarfing available water resources in the host catchments and will require the development of inward transfer capacity from other water sources to meet a projected deficit of 167 million m<sup>3</sup> per annum at full capacity, according to the Internal Masterplan for the EMSEZ<sup>2</sup>. This transfer capacity has neither been developed nor approved.
7. According to the Report, the proposed ferrochrome smelter will require 150 000 - 200 000 m<sup>3</sup> per year for Phase 1.
8. The Integrated Water Services Report compiled for the MMSEZ confirms that "*the MM SEZ Southern Development site currently has no direct access to any sustainable water resources sources, apart from groundwater. As discussed, the groundwater potential of the area is very low. Over usage will lead to dewatering, with lowering water tables impacting on the environment, and the authorizations and existing commercial interests of others. For any supply for industrial use, water will need to be transferred from where available to the site.*"<sup>3</sup>
9. According to the Report<sup>4</sup>, the "*Limpopo Department of Water and Sanitation will provide 30 million m<sup>3</sup> for the first phase of the MMSEZ*". The Report needs to clarify how the DWS in Limpopo will be able to provide or allocate such a large volume of water and over what period.
10. Even with the addition of groundwater abstraction, there is nowhere near enough water for the MMSEZ and the Project. The Water Use Licence Application for the MMSEZ south site, made in May 2024, states that the groundwater available for the MMSEZ south site is 600 000 m<sup>3</sup> per annum, although this has not been verified.
11. The Report recognises that "*the area is in deficit due to the over-allocation and over-development of irrigation...*". This means that an over-allocation of water in the region will be exacerbated by the 150 000 - 200 000 cubic metres per year required for the Ferrochrome smelter plant. Despite discussion on the limited water sources, there is no indication of how this obstacle will be overcome apart from a comment that some water may be sourced from Zimbabwe to make up for the deficit.

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<sup>2</sup> EMSEZ - Internal Master Planning; iX Engineers, MCC and Hoimor, pg. 22

<sup>3</sup> Integrated Water Services Report, pg. 39.

<sup>4</sup> Surface Water Resources section Section 2.5, page 79.

12. This is an unacceptable environmental consequence that will affect South Africa and Zimbabwe, and on this basis alone, the Project should not go ahead.

### GHG Emissions and the Climate Crisis

13. The MMSEZ is a carbon-intensive industrial development, and according to the Environmental Impact Assessment report for the MMSEZ South Site "*The MMSEZ development is expected to generate approximately 1 billion tonnes of carbon dioxide equivalent of direct energy and indirect emissions....[t]he largest contributors to these emissions are the ferrochrome, lime and steel plants*"<sup>5</sup> with the ferrochrome plant being the highest GHG emitter at 3 000 000 tonnes per annum.<sup>6</sup> (Our emphasis).
14. The total emissions from the MMSEZ are anticipated to be between 11% and 16% of South Africa's carbon budget to meet its Nationally Determined Contribution to GHG emissions reductions under the UNFCCC Paris Agreement<sup>7</sup> (10% of SA's carbon budget under a 2 degree Celsius global reduction target and as much as 16-24% under a 1.5 degree Celsius target). Thus, if this Project goes ahead, greenhouse gas emissions will contribute significantly to the national and global inventories and climate change and significantly affect South Africa's ability to meet its international commitments with serious consequences.

### No Adequate Power Supply

15. According to the Report, 80 MW of electric power will be needed for the Project. However, Eskom is only able to supply 5 MW.
16. The EIAR for the MMSEZ notes that electricity services need to be confirmed and secured.<sup>8</sup> It also acknowledges that water scarcity may also negatively impact Eskom's functionality and that Eskom's inability to generate power will negatively impact the proposed project's construction.<sup>9</sup>
17. Further to the above problems, there is also still a backlog of electricity supply to residential areas and the existing businesses in the Vhembe District Municipality.<sup>10</sup>
18. Therefore, there is no adequate power for the Project, and until one is secured, the EIA should be suspended.

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<sup>5</sup> Page 57 of the Specialist Climate Change Assessment Report for the MMSEZ South Site. September 2021. Promethium.

<sup>6</sup> Page 55. Ibid.

<sup>7</sup> EIAR, p440.

<sup>8</sup> EIAR, p251.

<sup>9</sup> p457.

<sup>10</sup> Appendix Y, p30.

These are all fatal flaws to the Project and on this basis, the EIA should not proceed to the next phase.

## PLAN OF STUDY FOR EIA

### General comments on the plan of study for EIA

19. The EIA Regulations require that the Scoping Report contain a plan of study for undertaking the environmental impact assessment process, which needs to include the following:
  - 19.1. *a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;*
  - 19.2. *a description of the aspects to be assessed as part of the environmental impact assessment process;*
  - 19.3. *aspects to be assessed by specialists;*
  - 19.4. *a description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;*
  - 19.5. *a description of the proposed method of assessing duration and significance;*
  - 19.6. *an indication of the stages at which the competent authority will be consulted;*
  - 19.7. *particulars of the public participation process that will be conducted during the environmental impact assessment process; and*
  - 19.8. *a description of the tasks that will be undertaken as part of the environmental impact assessment process;*
  - 19.9. *identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.*
- 19.10. The plan of study for EIA in the draft Scoping Report<sup>11</sup> does not contain all these elements. Further, the list of specialist studies and aspects to be assessed by specialists in requirements (ii) and (iii) is incomplete. Our comments on what information should have been included are outlined in our submissions below.

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<sup>11</sup> Sections 7 and 8

#### Description of alternatives, including the no-go option

20. The Report fails to describe alternatives by stating that the “ferrochrome smelter project site with the area already approved for the MMSEZ development. The No-Go option is the other alternative identified that will be discussed as part of the EIA/EMP phase”.
21. This is not sufficient for the purposes of scoping.

#### Description of aspects that require assessment as part of the EIA, including impacts and risks

22. The PowerPoint presentation at the public meeting on 13 September 2024 confirms that the EIA process is for the proposed ferroalloys plant, coal wash plant, coke plant, heat recovery electricity power plant and photovoltaic power station.
23. Further, the Report mentions infrastructure to and from the Pollution Control Dams (PCDs) and a sewerage treatment plant but fails to include the assessment of the associated impacts. There is also a brief mention in the general plant layout section of a “hot furnace flue gas purification system”. There is no further mention of this infrastructure or the associated impacts in the Report.
24. As mentioned above, the ferrochrome plant is the biggest emitter of GHG emissions in the MMSEZ. GHG emissions and climate impact are not included as aspects that require assessment in the EIA. The loss of biodiversity that the Project will cause on the site of the Ferrochrome smelter and in the surrounding area, which forms part of a UNESCO-designated Biosphere Reserve, is similarly not identified as an aspect that requires assessment in the EIA.
25. Water deficit is a major risk factor. According to the Report, the design scope of water supply and drainage includes “2×33000 kVA high carbon chromium electric furnaces, living and welfare facilities in the plant and the design of water supply and drainage pipe network in the plant. The water source comes from the well water near the plant”.<sup>12</sup> The total water consumption is 1456m<sup>3</sup> / h, equating to 12,757,440 cubic metres per annum. The Report is clear that there is a water deficit in the catchment, yet it fails to identify over-abstraction of groundwater as an impact or risk.
26. The Feasibility Study<sup>13</sup> lists major sources of pollution that are not identified in the Scoping Report. These are:
  - 26.1. waste gas (including smoke, dust, industrial waste gas, etc.);
  - 26.2. Dust and smoke gas produced in the drying process of chromium ore and coke;

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<sup>12</sup> Page 42.

<sup>13</sup> Annexure 7 to the Report.

- 26.3. Dust generated in the production process of raw materials and auxiliary materials system;
- 26.4. Dust-containing gas, smoke and dust particles produced in the process of smelting and production;
- 26.5. Instant dust generated when the alloy bag and middle tank are unpacking and overturned;
- 26.6. Wastewater;
- 26.7. Noise;
- 26.8. Solid waste;
- 26.9. Slag produced during the smelting of the electric furnace; and
- 26.10. Waste refractory materials produced.

27. In addition to these glaring omissions, other impacts that also require thorough investigation and assessment, and avoidance, alternatively, mitigation, include:
  - 27.1. Effects on climate resilience and the ability to adapt to climate change.
  - 27.2. Loss of land and access to natural resources, including water resources (natural water courses, groundwater and dams).
  - 27.3. Impact on conservation, tourism and the biodiversity economy in the region (formal and informal sector; state and private sectors) in the short, medium, and long-term.
  - 27.4. Impact of the rural economy (formal and informal) both in the short, medium and long-term.
  - 27.5. Cumulative impacts on air quality, water quality and biodiversity, biodiversity-based industries including tourism, agriculture and the rural economy, health and well-being, food security, water security and cultural practices.
28. The Report cannot be accepted until all the abovementioned issues are adequately incorporated into the Plan of Study for EIA.

#### Aspects to be assessed by specialists

29. The following specialist studies must be included:
  - 29.1. Climate change impact assessment that not only assesses Scope 1, 2 and 3 GHG emissions associated with the Project, but also risk and vulnerability assessments (i.e. the impact of the Project on the surrounding community's ability to adapt to, and their resilience

to, climate change), as well as to look at current climate change policies and legislation and the compatibility (need and desirability) of the proposed Project in relation to these;

- 29.2. Health impact assessment;
- 29.3. Soil and land capability and agricultural impact assessment with expertise in rural economies (subsistence and commercial);
- 29.4. Natural resource economic assessment to identify, quantify and assess the long-term impacts on the ecosystem services that will be permanently destroyed by the Project;
- 29.5. Air quality impact assessment;
- 29.6. Flora and fauna; and
- 29.7. Visual impact.

30. All specialist studies must assess the various alternatives that should have been identified during Scoping (but were not - see comment above on lack of alternatives), cover all phases of the Project, and include residual and permanent impacts.
31. All specialist studies must investigate cumulative impacts in relation to the Project, considered together with the impact of activities associated with existing and reasonably foreseeable impacts eventuating from the other projects anticipated in the MMSEZ and the region, including the development of coal mines to supply the MMSEZ plants including the Ferrochrome smelter with coal.

#### Method of Assessment

32. The method of assessing environmental impacts is missing from the Report.
33. The methodology for assessing the duration and significance of the impacts is vague and requires more detail to be properly understood. Reference to the source of the proposed methodology also needs to be provided.
34. Determining cumulative effects as “existing impacts + direct impacts” is of concern. All impacts of the MMSEZ and proposed surrounding coal mines must be included in the cumulative impact assessment.

### Suitable measures to avoid and mitigate impacts

35. This section is conspicuously meagre and inappropriate for the extent and anticipated significant impacts of the Project. For example, the proposed suitable measures to mitigate climate impact are “Green building designs and green/clean CO<sub>2</sub> energy use”. Another example is the mitigation suggested for the loss of ecology and biodiversity by the devastation of thousands of hectares of indigenous vegetation, which is to “conserve flora and fauna; and species diversity”. These mitigation measures are ridiculously ineffective in addressing such significant adverse impacts.
36. This entire section is wholly inadequate and needs to be revised.

### **NEED AND DESIRABILITY**

37. The National Environment Management Act, 1998 (NEMA), the Section 24J Guideline on Need and Desirability and our courts make it clear that when considering the need and desirability of a project, it cannot solely be from the applicant’s perspective and that the needs, values, preferences and judgements of society need to be factored into the EIA findings and the decision.
38. Further, the Guideline on Need and Desirability gives a detailed outline of how an EAP and a competent authority are required to consider the need and desirability of a project in the EIA process, including over 100 questions that need to be engaged when considering need and desirability. It has become a good practice for many EAPs to include a schedule showing how each question is addressed for the specific project. It is submitted the Report must be redone to incorporate such schedule.
39. The content of Section 1.1<sup>14</sup> in the draft Scoping Report fails to comply with the Guideline on Need and Desirability. It fails to consider all the social and environmental impacts of the Project and the true cost of the Project on the environment and people’s lives and livelihoods. The Report only supports the Project on weak economic reasoning and the fact that it is approved and supported by the government.
40. The Report practically quotes verbatim from the Feasibility Study by stating that South Africa “provides all preferential policies and guaranteed and competitive resources supply..., mining resources of various metallurgical raw materials, water, land, water resources, power plants coke, chemical plants...” cheap labour (235 jobs will be created), cheap chromium ore and coal “to provide cheap electricity for smelting” as well as offshoring pollution in a tax haven. It further states that the MMSEZ will “develop the advantages of China-Africa production capacity cooperation under the Belt and Road Initiative”, “transfer China’s excess steel capacity and reduce China’s high energy-consuming pollution”.<sup>15</sup>

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<sup>14</sup> Pages 55-56 of the Report.

<sup>15</sup> Page 4 of the Feasibility Study (Annexure 7 to the Report).

41. A comprehensive assessment of the need for and desirability of a GHG-emitting Project compared to the need for and desirability of preserving the Vhembe Biosphere Reserve, the natural terrestrial carbon sink and biodiversity reservoir, the biodiversity economy, water security, climate resilience and food security in communities is essential.
42. The Guideline on Need and Desirability specifically refers to 13(1)(e) of the EIA regulations, which requires EAPs to take due consideration of all the decision-making criteria for the competent authorities granting Environmental Authorisation in section 24O of NEMA. None of the “pollution, environmental impacts or environmental degradation”<sup>16</sup> was taken into account in the Report.

## **CUMULATIVE IMPACT**

43. The proposed MMSEZ is an industrial zone in an area comprising 8 000 hectares of “pristine bush” (including 177 ha of Limpopo Ridge Bushveld, 4 422.2 ha of Musina Mopane Bushveld and 145 ha of Riparian vegetation).<sup>17</sup>
44. It is estimated to cost \$17 billion to develop, and it will take 15 years to complete its construction. Other than the Project, numerous industrial projects are to be part of this site, including -
  - 44.1. 20 Mtpa coal washing plant;
  - 44.2. 3 300 Mw coal-fired power plant;
  - 44.3. 3 Mtpa coke plant;
  - 44.4. 390 Mw waste heat power plant;
  - 44.5. 1 Mtpa ferromanganese plant;
  - 44.6. 500 000 tpa of silicon manganese plant;
  - 44.7. 3 Mtpa stainless steel plant;
  - 44.8. 1 Mtpa high vanadium steel plant;
  - 44.9. 1 Mtpa high manganese steel plant;
  - 44.10. 5 Mtpa metallurgical lime plant;

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<sup>16</sup> Section 24O(b)(i).

<sup>17</sup> See ALL RISE 22 October 2020 Objections to the Proposed Musina-Makhado Energy and Metallurgy Special Economic Zone Development Draft Environmental Impact Assessment Report (“EIAR”) and Environmental Management Programme (EMPr) pg. 1 attached..

- 44.11. 1.2 Mtpa titanium dioxide plant; and
- 44.12. 150 000 tpa vanadium pentoxide plant.<sup>18</sup>
- 45. In addition, there are several mining projects adjacent to the proposed MMSEZ development site that have been licensed which will produce hard coking and thermal coal for supply to the MMSEZ. There is a total hectarage of 115,014 Ha of open-cast coal mining sites licensed in the surrounding Greater Soutpansberg Coalfield area. These projects include:<sup>19</sup>
  - 45.1. Makhado Project of 7 635ha4 998 Ha (Mining Right granted granted but appealed); and
  - 45.2. Mopane Coal Project (2 x mines) of 25 608 Ha (Mining Right granted);
  - 45.3. Generaal Coal Project (2 x mines) of 26 680 Ha (Mining Right granted);
  - 45.4. Chapudi Project (3 x mines) of 39 214 Ha (Mining Right granted);
  - 45.5. Vele Project of 10 756 Ha (Mining Right granted and mine operationalised)
  - 45.6. Berenice and Cygnus Project of 7 758 Ha (Environmental authorisation granted, under appeal).
- 46. It must be noted that the applicant in this Project is Kinetic Development Group Limited<sup>20</sup>, which, through its acquisition of a controlling interest in MC Mining, has also acquired the mining rights to 8,6 billion tons of the coal resources (Gross Tonnes in situ) on 107,000 hectares surrounding the special economic zone.
- 47. The Project cannot be assessed in isolation but as part of the vast industrial and mining zone of which it is part.

## PUBLIC PARTICIPATION

- 48. The EAP (“Gudani”) failed to send notice of the scoping to the list of more than 2000 individuals and organisations registered as Interested and Affected Parties (I&APs) in the 2022 MMSEZ EIA process. This included the attorneys acting on behalf of numerous organisations in the High Court review process launched in 2023. The failure to notify I&APs occurred throughout the scoping process, with Gudani leaving registered I&APs out of notifications of deadline changes

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<sup>18</sup> Munnik, pg.8

<sup>19</sup> ALL RISE 22 October 2020 Objections to the Proposed Musina-Makhado Energy and Metallurgy Special Economic Zone Development Draft Environmental Impact Assessment Report (“EIAR”) and Environmental Management Programme (EMPr) pg. 2.

<sup>20</sup> Page 55 of the Report.

and failing to provide access to all the documents and annexures. This has resulted in the inconsistent release and content of information shared with I&APs.

49. Despite being requested to do so, Gudani did not reissue notifications in accordance with the EIA regulations and Public Participation Guidelines.
50. Gudani only published notice of the public meeting held on 13 September 2024 in the Soutpansberger and the Limpopo Mirror newspapers on the same day it was held and only displayed a site notice one day prior.
51. The Report states in the “Notification” section that due consideration is needed for the “scale of the anticipated impacts of the proposed project, the sensitivity of the affected environment and the degree of controversy of the project and the characteristics of the potentially affected parties.” However, there is no indication that such due consideration was given.
52. Further to the above, the information provided at the public meeting on 13 September 2024 is inconsistent with the information contained in the Report, and most of the information and public notifications have not been in the most widely spoken language in the Vhembe District region, which is TshiVenda.

## **GENERAL**

53. The maps provided are not at an appropriate scale as the writing is challenging to read, and the information is not readily ascertainable.<sup>21</sup>
54. If the scoping process is meant to include the full list of processes referred to at the public meeting, the scope needs to be much wider and the Listed Activities expanded upon. In particular, the Report does not include the coal wash plant, coke plant, heat recovery electricity power plant and photovoltaic power station.
55. Further, the report fails to include an assessment of the actual development of PCDs or sewerage treatment plants. We further submit that the “hot furnace flue gas purification system” would also constitute a listed activity. However, it is not clear from the Report whether these have been included or not in the application for environmental authorisation, and if not, why not.

## **CONCLUSION**

56. It is clear from the comments in our submission that the competent authority cannot accept the Scoping Report because of all the flaws we have mentioned, which constitute substantial non-compliance with Appendix 2 of the EIA Regulations and the relevant Section 24J Guidelines, and

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<sup>21</sup> Pages 28 – 30, 71 and 76.

because it is based on a defective public participation process which amounts to procedural unfairness.

57. It is also apparent from the gross deficiencies in the Scoping Report that the EAP lacks the necessary expertise required in terms of Regulation 13 of the EIA Regulations.
58. We therefore submit that the Department must instruct the applicant to commence Scoping afresh. The Scoping process and the Scoping Report cannot be remedied by the Department simply requesting a number of additions to the Plan of Study for EIA and allowing the applicant to proceed to the EIR phase.

Yours faithfully,

Kirsten Youens

*(Sent by email and therefore not signed)*