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1  <?xml version="1.0" encoding="UTF-8"?>
2  <!-- 本案例文件僅含台積電永續報告部分內容，由屏大周國華老師研究團隊成員蘇佳成編製 -->
3  <xbrli:xbrl xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation=
  "http://xbrl.org/2006/xbrldi http://www.xbrl.org/2006/xbrldi-2006.xsd"
  xmlns:ifrs_sds_entry_point="
  https://xbrl.ifrs.org/taxonomy/2022-05-25/ifrs_sds/ifrs_sds_entry_point"
  xmlns:rol_ifrs_s1_2022-05-25="
  https://xbrl.ifrs.org/role/ifrs_sds/rol_ifrs_s1_2022-05-25" xmlns:gen="
  http://xbrl.org/2008/generic" xmlns:rol_dim="
  https://xbrl.ifrs.org/role/ifrs_sds/dimensions_2022-05-25" xmlns:ref="
  http://www.xbrl.org/2006/ref" xmlns:xbrldt="http://xbrl.org/2005/xbrldt"
  xmlns:rol_ifrs_s2_2022-05-25="
  https://xbrl.ifrs.org/role/ifrs_sds/rol_ifrs_s2_2022-05-25" xmlns:xl="
  http://www.xbrl.org/2003/XLink" xmlns:ifrs-sds="
  https://xbrl.ifrs.org/taxonomy/2022-05-25/ifrs-sds" xmlns:utr="
  http://www.xbrl.org/2009/utr" xmlns:link="http://www.xbrl.org/2003/linkbase"
  xmlns:enum2="http://xbrl.org/2020/extensible-enumerations-2.0" xmlns:xlink="
  http://www.w3.org/1999/xlink" xmlns:rol_im_1_2022-05-25="
  https://xbrl.ifrs.org/role/ifrs_sds/rol_im_1_2022-05-25" xmlns:dtr-types_2="
  http://www.xbrl.org/dtr/type/2022-03-31" xmlns:dtr-types="
  http://www.xbrl.org/dtr/type/2020-01-21" xmlns:iso4217="
  http://www.xbrl.org/2003/iso4217" xmlns:reference="http://xbrl.org/2008/reference"
  xmlns:xbrldi="http://xbrl.org/2006/xbrldi" xmlns:label="http://xbrl.org/2008/label"
  xmlns:xbrli="http://www.xbrl.org/2003/instance">
4    <link:schemaRef xlink:type="simple" xlink:href=
  "../../../IFRSSDT_2022-05-25/ifrs_sds_entry_point_2022-05-25.xsd"/>
5    <xbrli:context id="Context_Duration_PerflourinatedCarbonsMember">
6      <xbrli:entity>
7        <xbrli:identifier scheme="https://www.twse.com.tw">2330</xbrli:identifier>
8      </xbrli:entity>
9      <xbrli:period>
10        <xbrli:startDate>2021-01-01</xbrli:startDate>
11        <xbrli:endDate>2021-12-31</xbrli:endDate>
12      </xbrli:period>
13      <xbrli:scenario>
14        <xbrldi:explicitMember dimension="ifrs-sds:PollutantAxis">
          ifrs-sds:PerflourinatedCarbonsMember</xbrldi:explicitMember>
15        </xbrli:scenario>
16      </xbrli:context>
17      <xbrli:context id="From20210101To20211231">
18        <xbrli:entity>
19          <xbrli:identifier scheme="https://www.twse.com.tw">2330</xbrli:identifier>
20        </xbrli:entity>
21        <xbrli:period>
22          <xbrli:startDate>2021-01-01</xbrli:startDate>
23          <xbrli:endDate>2021-12-31</xbrli:endDate>
24        </xbrli:period>
25      </xbrli:context>
26      <xbrli:context id="Context_Duration_GridElectricityMember">
27        <xbrli:entity>
28          <xbrli:identifier scheme="https://www.twse.com.tw">2330</xbrli:identifier>
29        </xbrli:entity>
30        <xbrli:period>
31          <xbrli:startDate>2021-01-01</xbrli:startDate>
32          <xbrli:endDate>2021-12-31</xbrli:endDate>
33        </xbrli:period>
34        <xbrli:scenario>
35          <xbrldi:explicitMember dimension="ifrs-sds:EnergySourceAxis">
              ifrs-sds:GridElectricityMember</xbrldi:explicitMember>
36          </xbrli:scenario>
37        </xbrli:context>
38        <xbrli:context id="Context_Duration_RenewableEnergyMember">
39          <xbrli:entity>
40            <xbrli:identifier scheme="https://www.twse.com.tw">2330</xbrli:identifier>
41          </xbrli:entity>
42          <xbrli:period>
43            <xbrli:startDate>2021-01-01</xbrli:startDate>
44            <xbrli:endDate>2021-12-31</xbrli:endDate>
45          </xbrli:period>
46          <xbrli:scenario>
47            <xbrldi:explicitMember dimension="ifrs-sds:EnergySourceAxis">

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48         ifrs-sds:RenewableEnergyMember</xbrldi:explicitMember>
49     </xbrli:scenario>
50 </xbrli:context>
51 <xbrli:context id=
52     "Context_Duration_ProductsContainingIEC62474DeclarableSubstancesMember">
53     <xbrli:entity>
54         <xbrli:identifier scheme="https://www.twse.com.tw">2330</xbrli:identifier>
55     </xbrli:entity>
56     <xbrli:period>
57         <xbrli:startDate>2021-01-01</xbrli:startDate>
58         <xbrli:endDate>2021-12-31</xbrli:endDate>
59     </xbrli:period>
60     <xbrli:scenario>
61         <xbrldi:explicitMember dimension="ifrs-sds:ProductTypeAxis">
62             ifrs-sds:ProductsContainingIEC62474DeclarableSubstancesMember
63         </xbrldi:explicitMember>
64     </xbrli:scenario>
65 </xbrli:context>
66 <xbrli:unit id="MetricTonnesOfCO2Equivalent">
67     <xbrli:measure>utr:tCO2e</xbrli:measure>
68 </xbrli:unit>
69 <xbrli:unit id="Gigajoules">
70     <xbrli:measure>utr:GJ</xbrli:measure>
71 </xbrli:unit>
72 <xbrli:unit id="Pure">
73     <xbrli:measure>xbrli:pure</xbrli:measure>
74 </xbrli:unit>
75 <xbrli:unit id="CubicMetre">
76     <xbrli:measure>utr:m3</xbrli:measure>
77 </xbrli:unit>
78 <xbrli:unit id="Foot">
79     <xbrli:measure>utr:ft</xbrli:measure>
80 </xbrli:unit>
81 <ifrs-sds:GrossScope1GreenhouseGasEmissions decimals="0" contextRef=
82     "Context_Duration_PerflourinatedCarbonsMember" unitRef=
83     "MetricTonnesOfCO2Equivalent">529337</ifrs-sds:GrossScope1GreenhouseGasEmissions>
84 <ifrs-sds:GrossScope1GreenhouseGasEmissions decimals="0" contextRef=
85     "From20210101To20211231" unitRef="MetricTonnesOfCO2Equivalent">2151937
86 </ifrs-sds:GrossScope1GreenhouseGasEmissions>
87
88 <ifrs-sds:Scope1EmissionsLongTermAndShortTermStrategyTargetsAndPerformanceAnalysisTe
89 xtBlock contextRef="From20210101To20211231">目標：
90 台積公司將再生能源視為邁向淨零排放的重要策略，考量台灣再生能源市場現況及發展趨勢、未來
91 半導體產品需求、自身產能成長並持續執行最佳溫室氣體減量標竿作為後，規畫於民國 114
92 年起碳排放零成長，並逐步下降；民國 119 年碳排放回到民國 109 年排放水準；並於民國
93 139 年含價值鏈一同達到淨零碳排放。
94 策略：
95 透過優化製程氣體用量、全面導入製程尾氣破壞削減設備與零碳排能源、提升能源使用效率、擴大
96 資源循環、選用低碳足跡原物料與開發高效節能設備等種種綠色行動，逐步實踐淨零排放目標。
97 績效分析：
98 a. 推動低碳製造
99 - 單位產品溫室氣體排放量（公噸－二氧化碳當量／十二吋晶圓當量－光罩數）減少 27%；
100 - 單位產品環境外部性註 2 減少 18%（新台幣元／十二吋晶圓當量－光罩數）
101 </ifrs-sds:Scope1EmissionsLongTermAndShortTermStrategyTargetsAndPerformanceAnalysisTe
102 xtBlock>
103 <ifrs-sds:EnergyConsumedPercentage decimals="2" contextRef=
104     "Context_Duration_GridElectricityMember" unitRef="Pure">0.94
105 </ifrs-sds:EnergyConsumedPercentage>
106 <ifrs-sds:EnergyConsumedPercentage decimals="3" contextRef=
107     "Context_Duration_RenewableEnergyMember" unitRef="Pure">0.087
108 </ifrs-sds:EnergyConsumedPercentage>
109 <ifrs-sds:EnergyConsumed decimals="0" contextRef="From20210101To20211231" unitRef=
110     "Gigajoules">69091200</ifrs-sds:EnergyConsumed>
111 <ifrs-sds:WaterWithdrawn decimals="-3" contextRef="From20210101To20211231" unitRef=
112     "CubicMetre">82824000</ifrs-sds:WaterWithdrawn>
113 <ifrs-sds:WaterConsumed decimals="-3" contextRef="From20210101To20211231" unitRef=
114     "CubicMetre">77074000</ifrs-sds:WaterConsumed>
115
116 <ifrs-sds:WaterWithdrawnPercentageInRegionsWithHighOrExtremelyHighBaselineWaterStres
117 s decimals="3" contextRef="From20210101To20211231" unitRef="Pure">0.038
118 </ifrs-sds:WaterWithdrawnPercentageInRegionsWithHighOrExtremelyHighBaselineWaterStre

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<ifrs-sds:WaterConsumedPercentageInRegionsWithHighOrExtremelyHighBaselineWaterStress decimals="3" contextRef="From20210101To20211231" unitRef="Pure">0.005</ifrs-sds:WaterConsumedPercentageInRegionsWithHighOrExtremelyHighBaselineWaterStress>

<ifrs-sds:ProductRevenuePercentage decimals="4" contextRef="Context_Duration_ProductsContainingIEC62474DeclarableSubstancesMember" unitRef="Pure">0.0006</ifrs-sds:ProductRevenuePercentage>

<ifrs-sds:EffortsToMinimizeUsageOfIEC62474DeclarableSubstancesTextBlock contextRef="From20210101To20211231">

台積公司不僅於生產製造階段完全符合環保、安全與衛生相關法規，替客戶生產的產品亦完全符合包括歐盟危害性物質限制指令（EU RoHS）、歐盟化學品註冊、評估、許可和限制法案（EU REACH）與其他國際法規及客戶對產品限制有害物質的要求。

</ifrs-sds:EffortsToMinimizeUsageOfIEC62474DeclarableSubstancesTextBlock>

<ifrs-sds:ProductionUnits decimals="-4" contextRef="From20210101To20211231" unitRef="Foot">1300000000</ifrs-sds:ProductionUnits>

<ifrs-sds:EffortsToDesignForNewAndEmergingUsagePatternsWithRespectToEnergyEfficiencyInAllProductCategoriesTextBlock contextRef="From20210101To20211231">

透過不斷強化半導體製程技術與製造服務，台積公司於民國 110 年協助客戶實現超過 12,300

種晶片創新，使產品更先進、更強大、更智慧化、更具能源效率且更安全，大幅精進生活品質，創造永續共好社會。

</ifrs-sds:EffortsToDesignForNewAndEmergingUsagePatternsWithRespectToEnergyEfficiencyInAllProductCategoriesTextBlock>

</xbrli:xbrl>