

Requesting country or countries:	Republic of Chile		
Request title:	Technology needs assessment (TNA) and technology action plan (TAP) to implement NDC		
NDE	Mr. Giovanni Calderón, Executive Director Climate Change and Sustainability Agency +56 2 2688 4500 giovanni.calderon@ascc.cl Santiago		
Request Applicant:	<p>Ms. Carolina Urmeneta Head of the Climate Change Office Ministry of Environment +562 2573 5800 curmeneta@mma.gob.cl</p>	<p>Mr. Leonardo Muñoz Cabinet Advisor Ministry of Science, Technology, Innovation and Knowledge +56 9 92982745 lmunoz@minciencia.gob.cl</p>	<p>Mr. Giovanni Calderón, Executive Director Climate Change and Sustainability Agency +56 2 2688 4500 giovanni.calderon@ascc.cl</p>

Climate objective:

- Adaptation to climate change
- Mitigation of climate change
- Combination of adaptation and mitigation of climate change

Geographical scope:

- Community level
- Sub-national
- National
- Multi-country

Problem statement related to climate change:

The purpose of this proposal is to offer technical guidance and support to Chile to conduct a sectoral technology needs assessment (TNA) and develop a technology action plan. Chile is planning to conduct a TNA based on 3 prioritized sectors and developing a technology action plan (TAP) for each of the prioritized technologies with a view of implementing its NDC.

In 2018 Chile took the first steps of a TNA process. As a result, and through an analytic hierarchy process that involved multi-attribute utility analysis, simple multiple attribute ranking theory and expert judgement, three sectors were prioritized out of 14 outlined in the third national communication: Water Resources; forestry and agriculture; and Energy.

During 2020, the Inter-Ministerial Technical Team on Climate Change, a technical body that oversees climate policy, validated the development of a TNA request with the aforementioned three sectors on the April 30th session. After consultation with several public sectors and the publication of the final version of the Strategy for the Development and Transfer of Technology for Climate Change, these 3 three sectors have been confirmed as the sectors to be included in this request.

Transition to a Climate-Resilient and Low-Carbon development means adopting environmentally and socially sound, cost-effective, and better-performing climate technologies on a large and widespread scale, which are generally lacking in developing countries. A comprehensive assessment of technical and technology needs appears urgent in order to align Chile's development vision with its commitments under the NDC. Also, the undertaking of a Technology Need assessment is, in itself, part of the Chilean NDC since 2015.

The current pandemic, and its foreseen economic consequences, increase the relevance of this request. With the CTCN assistance, Chile expects to complete the TNA process for the prioritized sectors by strengthening its Institutional capacity and coordination mechanisms; to identify technology solutions in accordance with the prioritized sectors and national strategies; developing a Technology Action Plan per challenge, sector and/or sub (sector); and to ensure national ownership and technology deployment; supporting the implementation of the Technology Action Plan with communications, guidance and training; enhancing SME capacity and improving their enabling environment.

With the adoption of the Paris Agreement, the Technology Framework was established. Decision 15 CMA 1 sets the Key Themes of this framework and puts the TNA process at the very center of the Implementation of the technology Framework, Thus a developing state's technology needs assessment (TNA) has become a prerequisite for the planning and action needed to meet the NDC targets and addressing the transformational changes envisioned in the Paris Agreement and the long term vision for technology development and transfer. Also part 6 of Decision 15 CMA 1 reiterates the importance of the support, including financial support, that shall be provided to developing country Parties for strengthening cooperative action on technology development and transfer at different stages of the technology cycle, and agrees that the technology framework can facilitate the strengthening of such support.

The results are expected to provide strategies for long-term participatory transformational action in all identified and prioritized sectors to drive climate-resilient and low-carbon growth. High-level political support, mobilization of funds and engagement of the private sector and key stakeholders are critical to their implementation. The work will be undertaken within the broader context of the technology needs assessments undertaken by many countries and recognized by the COP as a key element in identifying and planning for technology to address the challenges of climate change. Guidance developed and available at <http://www.tech-action.org/> will be considered in the development of the reports.

Past and on-going efforts to address the problem (up to half a page):

Chile conducted its first “TNA” process the year 2003. In 2009 a technology transfer strategy for Climate Change was proposed, and a technology analysis for 5 sectors was performed. One relevant conclusion was the “need for assessments of technological needs that are adapted and reviewed over time”.

This request is a needed final step of a process initiated in 2015. That year Chile committed the undertaking of a Technology Need Assessment in the INDC, being one of the key elements of the Strategy for the Development and Transfer of Technology for Climate Change. In 2017, the Council of Ministers for Sustainability approved the National Climate Change Action Plan, furthering this commitment. In 2018 three TNA processes were undertaken by different agencies. Two of these processes delivered TNA for the Chilean cement and steel industry during the 2020. The other one identified existing capacities in technology transfer at the country level, and three sectors were prioritized: Water Resources; forestry and agriculture; and Energy.

Also, in 2018 the Ministry of Science, Technology, Knowledge and Innovation was put in place, and a coordination Committee for the Climate Change strategy for Technology Development and Transfer was set up in 2019. At the beginning of the present year, the final version of the Climate Change Strategy for Technology Development and Transfer was delivered. NGO’s, Private Sector and Research Centers participated in the writing the document and the TNA process is one of its core components. The update of the National Determined Contribution (NDC), presented in April 2020, ratifies and deepens the 2015 commitment.

Specific technology¹ barriers:

Chile faces obstacles to advance climate technologies needed to strengthen mitigation and adaptation measures and build resilience. Regarding the TNA process that is part of our national commitment, the most immediate barrier that needs addressing is that several prioritized challenges have no technologies identified. The lack of a clear and shared understanding of what are the specific needs in each sector is the first big barrier that hinder national efforts. Down the line, there is a lack of expertise, or a lack of knowledge regarding who has the expertise, to select the technologies that fulfill those needs. In addition, the variability of climatic and geographic conditions make it difficult to select a one that fits all technology for each sector, demanding a nuanced approach to the technology selection and barrier analysis.

General barriers can be identified and foreseen, such as economic, financial, institutional, legal, technical, social and cultural. But without the selection of the specific technologies, and the participation of the relevant stakeholders, we do not know the specifics and how relevant they are in each case. Based on the 2003 and the 2009 experience, and also the cement and steel industry process, strengthening Chile institutional capacity and coordination mechanisms, and ensuring national ownership and technology deployment are paramount for the success of a TNA process. The lack of them is in itself one of the biggest barriers identified for the success of the TNA process.

¹ **“any equipment, techniques, practical knowledge and skills needed for reducing greenhouse gas emissions and adapting to climate change”** (Special Report on Technology Transfer, IPCC, 2000)

Sectors:

Please indicate the main sectors related to the request:

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Coastal zones | <input checked="" type="checkbox"/> Early Warning and Environmental Assessment | <input checked="" type="checkbox"/> Human Health | <input checked="" type="checkbox"/> Infrastructure and Urban planning |
| <input type="checkbox"/> Marine and Fisheries | <input checked="" type="checkbox"/> Water | <input checked="" type="checkbox"/> Agriculture | <input type="checkbox"/> Carbon fixation |
| <input checked="" type="checkbox"/> Energy Efficiency | <input checked="" type="checkbox"/> Forestry | <input type="checkbox"/> Industry | <input checked="" type="checkbox"/> Renewable energy |
| <input checked="" type="checkbox"/> Transport | <input type="checkbox"/> Waste management | | |

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

- | | | | |
|---|---|---|---|
| <input checked="" type="checkbox"/> Communication and awareness | <input checked="" type="checkbox"/> Economics and financial decision-making | <input checked="" type="checkbox"/> Governance and planning | <input checked="" type="checkbox"/> Community based |
| <input checked="" type="checkbox"/> Disaster risk reduction | <input checked="" type="checkbox"/> Ecosystems and biodiversity | <input checked="" type="checkbox"/> Gender | |

Technical assistance requested (up to one page):

Overall objective

At the public policy level, the project to be applied for seeks to complement the national processes of the NDC, facilitating the development and transfer of technology in climate change. Therefore, this technical assistance from the CTCN, whose objective is to carry out, in part, the assessment of technology needs for the sectors identified by the country as key, offers a great opportunity to support the country's climate strategies and objectives. The transfer of technology in these sectors will undoubtedly have an impact on reducing the population's vulnerability and, therefore, increasing resilience to climate change, as well as orient the country towards a low-carbon development path.

The sectors, sub sectors and challenges have been already identified, but a final stakeholder validation might be needed as part of the project. The challenges already preselected by the public sector are the following:

Sector	Sub sector	Challenges ²
Water Resources	Urban Drinkable Water	<ol style="list-style-type: none"> 1. Drought and water continuity in urban drinking water supply. 1. Alternative sources for the provision of drinking water. 1. Reuse of waters. (Grey and treated wastewater) 1. Decrease of Losses in drinking water distribution systems. 1. Risk Disaster Management in water utilities. 1. Sustainable sewage and stormwater management. 1. Water utilities and harmonious cities growth.
	Rural Drinkable Water	<ol style="list-style-type: none"> 1. Technology for operation and maintenance of drinking water in rural systems. 2. Access to drinking water in rural areas. 3. Water quality of drinking water in rural areas. 4. Treatment and Reuse of rural wastewater. 5. Strengthening of communities in the management of rural drinking water systems.
Forestry and agriculture ³	Forestry	<ol style="list-style-type: none"> 1. Management of silvo-agricultural climatic information at the national level.
	Agriculture	<ol style="list-style-type: none"> 1. Agroclimatic Information.
Energy	Electric Generation Network	<ol style="list-style-type: none"> 1. Electric Network Climate Resilience. (including resilience metrics for decision making). 1. Integral solutions for energy auto consumption. (Renewable Generation and storage, Distributed Active Demand, Hybrid Combinations) 1. Energy network supply chain. (Fossil fuels and water availability) 2. Hydrothermal coordination of the National Electric System. (including Flexibility of the National Electric System and Technology Diversification) 2. Climatic information. (Hydro, wind radiation and extreme events) 2. Electric Network Expansion. 3. Energy certification and traceability.
	Transport	<ol style="list-style-type: none"> 1. Freight transportation logistics. (focus on Last mile, traffic control center and urban transit) 2. Mobility as a Service. (focus on data management, platforms, micro mobility, System Architecture for Intelligent Transport Systems) 3. Urban transport management. (focus on analysis for decision making) 4. Green Hydrogen for freight and public transport. 5. Support infrastructure and charging technologies for Electromobility.

² Numbers reflect order of priority as indicated by sectoral agencies, starting with 1 as the highest priority.

³ The activities under these challenges are expected to be synergistic to the "Activity 2.3.2: Analyze sources of information and existing systems related to the management and updating of climate information linked to the Forestry, Agriculture and Livestock sector" of the Adaptation planning support for Chile GCF project.

Anticipated groups of activities

1. Effective coordination mechanism between NDA, NDE and relevant stakeholders for the undertaking of the TNA process and the implementation of the national Technology Strategy for Climate Change as declared on Chile NDC.
2. Strengthened Private sector (with a focus on SME) capacity and creation of an enabling environment for their participation in climate technology adoption through innovative new business identification training programme.
3. Identifying and prioritizing appropriate climate technology solutions and relevant actions that enable the adoption of the selected technologies, including increased access to finance.
4. Stakeholders engagement and information dissemination for enhanced country ownership and technology deployment.
5. Concept Notes for Technology Action Plans and Country Programming operationalization developed.

Anticipated products to be delivered by the technical assistance.

1. Work & Monitoring and evaluation plan for the technical assistance and TNA.
2. Stakeholder mapping report for the TNA process, where roles and responsibilities are specified.
3. Meetings and interviews summary and report of the meetings if applicable.
4. Official government circular establishing the national TNA committee
5. TNA Committee Constitution document informing on the work of the TNA Committee
6. A full list of participants, photo documentations and a detailed report of the TNA committee training.
7. TNA Committee Work Plan.
8. Reports of TNA Committee meetings.
9. Workshops reports including a full list of participants, photo documentations. The reports will include the innovative business and training programmes identified if applicable.
10. Report on TNA-TAP alignment with national plans/grants.
11. Report on analysis of sectoral priorities expressed in national documents.
12. Report describing the methodology utilized for challenge prioritization and estimated cost for TAP on each of them.
13. Stakeholders consultation workshop report for TNA challenge prioritization.
14. Technology fact sheets.
15. Report detailing the set of criteria for MCA exercise.
16. Final reports including a mitigation TNA report and an adaptation TNA report.
17. Database in most suitable format (Technology Inventory)
18. Report and executive summary of each Technology Action Plan for each of the priority technologies in compliance with the TNA, including a Sectoral note on technology opportunities, training material and tools.
19. Policy briefs and market-use cases for the selected technologies.
20. Report on the dissemination strategy.
21. Training materials for the sub-national workshops.
22. Two (2) Concept notes developed from TAP and aligned with the Country programming process.
23. Terms of reference to share with GCF.

Expected timeframe:

18 months.

Anticipated gender and other co-benefits from the technical assistance:

This technical assistance is part of Chile NDC commitment on technology. The purpose of this commitment is to enhance and strengthen the development and transfer of technology with a view to facilitate the social, cultural and economic transformational change needed for a sustainable, resilient and carbon neutral development towards 2050. Is part of our vision on technology development, declared on our NDC, that through multi stakeholder coordination, several co benefits should be achieved for ecosystems, regions and productive systems, allowing Chile to take leadership on technology development and transfer, turning this challenge into an opportunity for development.

This technical assistance had a consultation with the gender focal points during its development, and we have a set of gender requisites and approaches for most activities:

- The Guidance for a gender-responsive Technology Needs Assessment must be used in the development of the TNA.
- Sector and subsector technology analysis and stakeholder participation must take into consideration gender labour balance. Some masculinized industries may have specific barriers that discourage women participation.
- Stakeholder selection and engagement must be gender balanced.
- Coordination Committee for the Climate Change strategy for Technology Development and Transfer, that will oversee the TNA process must be gender balanced to ensure that women and men are both fully engaged in decision-making processes, development and use of technologies, and benefit from them.
- Workshops must be at least gender balanced, and take into account specific social dynamics that impact participation or the willingness to address gender related issues within technical assistance. The team that will deliver the implementation of this request should comprehend a gender/social specialist, in order to provide advisory on gender analysis during the response deliverance. This would enable the identification, assessment and planning of gender-sensitive technological solutions that could take into consideration specific social, economic and cultural differences between women and men.
- During the Technical Assistance the “Check list to integrate gender approach in climate changes management instruments”⁴ will be used. Gender gaps should be identified for different technological solutions.

By doing this we expect to contribute to the fifth Sustainable Development Goal. Also, based on the specific challenges already outlined in the Technical Assistance requested, we would expect a contribution towards several SDG’s objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16 and 17.

Key stakeholders:

Stakeholders	Role to support the implementation of the technical assistance
Ministry of Finance (GCF AND)	Key decision maker regarding the development of concept notes.
Climate Change and Sustainability Agency (Proponent of Technical assistance and CTCN NDE)	Preparation of request, secure support and continuity for the TNA process and the implementation of the TAP’s. CTCN NDE. Coordination with Business Associations. Project Managers, i.e. the cross-cutting meetings, deliverables and deadlines with the CTCN and consultants, as well as the overall project decisions, overall products and coordination. Ambrosio Yobánolo ambrosio.yobanolo@ascc.cl and Ismael Diaz ismael.diaz@ascc.cl are assigned to support the management of the implementation of this request.

⁴ Lista de chequeo para integrar enfoque de género en los instrumentos de gestión del cambio climático (MMA, PNUD, 2020), available in bibliography section.

<p>Ministry of Environment (Proponent of Technical assistance and Sectoral Authority)</p>	<p>Secures support and continuity for the TNA process and the implementation of the TAP's. Provide sectoral information, and support the development of technology action plans relevant to the challenges of their sectors. Also Focal Point of the GEF. Project Managers, i.e. the cross-cutting meetings, deliverables and deadlines with the CTCN and consultants, as well as the overall project decisions, overall products and coordination. Ms. Carolina Urmeneta curmeneta@mma.gob.cl is assigned to support the management of the implementation of this request.</p>
<p>Ministry of Science (Proponent of Technical assistance)</p>	<p>Secures support and continuity for the TNA process and the implementation of the TAP's, provides strategic view regarding development and transfer of technologies. Coordination with research centers, and institutions that provide research grants. Project Managers, i.e. the cross-cutting meetings, deliverables and deadlines with the CTCN and consultants, as well as the overall project decisions, overall products and coordination.</p> <p>Mr. Leonardo Muñoz lmunoz@minciencia.gob.cl is assigned to support the management of the implementation of this request.</p>
<p>Women's and Gender Equality Ministry (Gender Focal Point)</p>	<p>Make sure that a gender sensitive approach is used in the interventions, and in the criteria for selecting stakeholders, selecting technologies, and identifying barriers.</p> <p>Ms. Loreto Maza lmaza@minmujeryeg.gob.cl is assigned to ensure that a gender sensitive approach is used in the interventions.</p>
<p>Ministry of Agriculture (Sectoral Authority)</p>	<p>Provides sectoral information, and supports the development of technology action plans relevant to the challenges of their sectors.</p> <p>Angelina Espinoza Oyarzún jespinoz@odepa.gob.cl is assigned to support the implementation of this request regarding the Forestry and Agriculture challenges.</p>
<p>Ministry of Energy (Sectoral Authority)</p>	<p>Provides sectoral information, and supports the development of technology action plans relevant to the challenges of their sectors. Francisco Dall'Orso León fdallorso@minenergia.cl, are assigned to support the implementation of this request regarding the Electric Generation Network challenges.</p>
<p>Ministry of Public Works and Superintendency of Water Services (Sectoral Authority)</p>	<p>Provides sectoral information, and supports the development of technology action plans relevant to the challenges of their sectors.</p> <p>Alvaro Sola Alcazar alvaro.sola@mop.gov.cl, Vicente Castillo Sarmiento vicente.castillo@mop.gov.cl and Miguel Pinochet Andrade miguel.pinochet@mop.gov.cl, are assigned to support the implementation of this request regarding the Rural Drinkable Water challenges.</p> <p>Victor Galvez vgalvez@siss.gob.cl is assigned to support the implementation of this request regarding the Urban Drinkable Water challenges.</p>

Ministry of Transport (Sectoral Authority)	Provides sectoral information, and supports the development of technology action plans relevant to the challenges of their sectors. Paula María Vidal Mohr pvidalm@mtt.gob.cl is assigned to support the implementation of this request regarding the transport challenges.
Relevant Business Associations (sectoral)	Provides market knowledge and engagement and feedback regarding the different steps of the proposal. Will be engaged and a representative(s) will be selected under activity 1.3.1.
Relevant Research and Technology Centers	Provides specific knowledge regarding the technologies, their possible adaptations and feedback regarding the different steps of the proposal. Will be engaged and a representative(s) will be selected under activity 1.3.1
Others	Provides specific capabilities or resources that are deemed necessary or desirable in the context of the TNA committee. Will be engaged and a representative(s) will be selected under activity 1.3.1, if applicable.

Alignment with national priorities:

Within the official documents technology development and transfer, and technology needs assessment are stated as a priority for Chile. This is reflected in the earlier TNA of 2003, but also in the Paris Agreement Commitments such as the INDC of 2015. Now, in the 2020 update of the NDC it remains a priority.

In the 2015 INDC, the mapping of technology needs and the determination of technological priorities for Climate Change was part of the contribution, as a component of the strategy for development and technology transfer and in combination with the identification of synergistic elements to be used in technology implementation for Climate Change. As stated in “past and on-going efforts to address the problem”, this request follows from that commitment in a logical and institutional way. Responsibilities were assigned in the National Climate Change Action Plan of 2017, the first part of a TNA process was conducted in 2018 which delivered sectors, subsectors and challenges. Also the final version of the National Strategy for Technology development and Transfer was agreed this year, with TNA process as its core, and clearly stating the priorities for technology development and transfer, being the 3 sectors presented in this request the ones with the highest ranking priority. It’s draft was an input for the 2020 NDC update: The updated technology commitment has 2 overarching lines, which aim to establish the institutionality and governance of a strategy for development and technology transfer in climate change, along with the implementation and operation of mechanisms for TNA’s and for the implementation of TAP’s in targeted areas.

Most of the country requests are synergistic to this one since they all advance Chile climate agenda, but the adaptation planning support (Readinnes) is directly complementary, because the technology needed, and the action plan for its implementation, it’s the logical step after the activity 2.3.2 of that plan is performed, allowing the country to select the technologies needed for an information system to manage and update climate information linked to the Forestry, Agriculture and Livestock sector. Also the projects “FP151: Technical Assistance (TA) Facility for the Global Subnational Climate Fund” and “FP152: Global Sub national Climate Fund (SnCF Global) – Equity” should be considered as a means to solve barriers associated with the selected technologies on, at least, the water and energy sectors. Since these two projects are specific to low carbon infrastructure, and certified Climate and Sustainable Development impacts and Nature-based Solutions they can be useful to the TNA process as long as the selected technologies are suitable to be financed by them, so this should be taken into account when prioritizing the technologies and also when defining the TAP’s for them.

The “FP149: Green Climate Financing Facility for Local Financial Institutions in Latin-America” could yield good results if the project managers are included in the TNA process, because this project could allow us to design specific financial pipelines for some of the prioritized technologies in energy and water sectors.

Finally, solving the challenges outlined for the Forestry and agriculture sector, could allow us to enhance the Enabling conditions for ENCCRV implementation, which is output 2 of FP120: Chile REDD-plus results-based payments for results period 2014-2016, so this should be taken into account with a view on the next payment periods.

Also, several documents, released and under discussion, provide strong signals that this request is not only consistent and synergic with existing priorities, but that is in itself a priority. This request will allow Chile to continue the efforts already made to fulfill a commitment under the Paris Agreement by enhancing governance, by validating and narrowing the technology needs, by delivering specific technological action plans accordingly and by ensuring national ownership and technology deployment. Those documents are listed in the following table:

Reference document (please include date of document)	Extract (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC 2020)	Contribución Determinada a Nivel Nacional de Chile, Actualización 2020. Chapter 3, pages 25-27. Chapters 4.3-4.4, pages 33, 35. Chapter 5.2, page 43. Chapter 6.2, pages 53-59. Chapter 7.3-7.5, pages 75-79. (Chapter 7.4 States explicitly a TNA) Chapter 8.4, pages 85-95. [https://mma.gob.cl/wp-content/uploads/2020/04/NDC_Chile_2020_espan%CC%83ol-1.pdf]
Intended Nationally Determined Contribution (INDC 2015)	Contribución Determinada a Nivel Nacional de Chile, 2015. Chapter 2.2-2.6, pages 12-18. Chapter 4-6, pages 25-32. (Chapter 5 States explicitly a TNA) [https://mma.gob.cl/wp-content/uploads/2016/05/2015-INDC-web.pdf]
Technology Needs Assessment (2018)	Diagnóstico de las Capacidades de Transferencia Tecnológica del País y Desarrollo de la Primera Etapa del Análisis de Necesidades Tecnológicas en Cambio Climático, 2018. Main conclusions are the cornerstone of the sector prioritization used in this request. Chapters 5-7, pages 61 - 125. [https://cambioglobal.uc.cl/images/proyectos/Informe_Final_Capacidades_Tecnologias_CC_CCG-UC_MMA_300119.pdf]
Technology Needs Assessment (2009)	Estrategia y Potenciales de Transferencia Tecnológica para el Cambio Climático, 2009. The need for TNA's is one of its main conclusions, page 412. [http://dataset.cne.cl/Energia_Abierta/Estudios/CIFES/ESTRATEGIA-Y-POTENCIALES-DE-TRANSFERENCIA-TECNOLOGICA-PARA-EL-CAMBIO-CLIMATICO.pdf]
National Strategy for technology development and transfer for Climate Change (2020)	Estrategia de Desarrollo y Transferencia Tecnológica para el Cambio Climático, 2021. Pages 16-27. [https://drive.google.com/file/d/1XkPWzA72Uq1xJl27jIcok7NSY4X9GuBq/view?usp=sharing]

National Climate Change Action Plan (2017)	Plan de Acción Nacional de Cambio Climático 2017-2022, 2017. Page 147. [https://mma.gob.cl/wp-content/uploads/2017/07/plan_nacional_climatico_2017_2.pdf]
National Adaptation Plan (2014)	Plan Nacional de Adaptación al Cambio Climático, 2014. Page 41. Page 45. [https://mma.gob.cl/wp-content/uploads/2016/02/Plan-Nacional-Adaptacion-Cambio-Climatico-version-final.pdf]
Sectoral Adaptation Plan (2013)	Plan de Adaptación al Cambio Climático del Sector Silvoagropecuario, 2013 Chapter 4, Page 35. [http://cambioclimaticochile.cl/wp-content/uploads/2014/12/plan_CC_Silvoagropecuario.pdf]
National Strategy on Climate Change and Vegetation Resources (2017)	Estrategia Nacional de Cambio Climático y Recursos Vegetacionales, 2017. Chapter 5.3, pages 97-167. [https://www.enccrv.cl/libro-enccrv2017-2025]
Electromobility Strategy (2017)	Estrategia Nacional de Electromovilidad, 2017. Focus 1, pages 18-23. Focus 2, pages 24-27. [https://www.energia.gob.cl/sites/default/files/estrategia_electromovilidad-8dic-web.pdf]
Water and sanitation strategic plan (2019)	Plan Estratégico Agenda Sector Sanitario 2030, 2019. Chapter 7.3.1-7.3.3, pages 33-36. Chapter 7.3.6, pages 38-39. Chapter 7.4, pages 41-45. [http://www.sectorsanitario2030.cl/587/articles-17571_plan_estrategico_spanish.pdf]
Decarbonization Plan and Roundtable (2019)	Plan de descarbonización, 2019. Synergistic with electromobility and energy sector challenges. [https://www.energia.gob.cl/mini-sitio/plan-de-descarbonizacion-de-la-matriz-electrica]
Ratification of Paris Agreement (2017)	Promulga el Acuerdo de París, Adoptado en la Vigésimo Primera Reunión de la Conferencia de las Partes de la Convención Marco de las Naciones Unidas Sobre el Cambio Climático, 2017. [https://www.leychile.cl/Navegar?idNorma=1103158]
Climate Change Law (under parliamentary discussion 2020)	Climate Change Law (under parliamentary discussion) Article 6. (1.a is TNA) Article 9. (adaptation sectors, 1.b, 1.f, 1.g are water resources, energy and Forestry and agriculture) [https://www.senado.cl/appsenado/templates/tramitacion/index.php?boletin_ini=13191-12]

<p>CTCN Technical Assistance (2015)</p>	<p>Design of a National Network for Monitoring Ecosystem Resilience in the Face of Climate Change, 2015.</p> <p>The technical assistance might be synergistic and complementary to the silvo-agricultural climatic information and climate risk challenges, but also to the drinkable water challenges. Its conclusions should be analyzed and taken into account when analyzing the water aspects of the silvo-agricultural climatic information, climate risk challenges and drinkable water challenges.</p> <p>[https://www.ctc-n.org/technical-assistance/projects/design-national-network-monitoring-ecosystem-resilience-face-climate]</p>
<p>CTCN Technical Assistance (2018)</p>	<p>Incubating Climate Technologies in Small and Medium Enterprises in Chile, 2018.</p> <p>The technical assistance has synergistic value with the agriculture sub sector challenge, and is complementary to the water system challenge. Its conclusions should be taken into account regarding the finance barriers for the agrifood SMEs.</p> <p>[https://www.ctc-n.org/technical-assistance/projects/incubating-climate-technologies-small-and-medium-enterprises-chile]</p>
<p>CTCN Technical Assistance (2018)</p>	<p>Design of an ecological response and restoration platform against fires for the Chilean silvo-farming sector, 2018.</p> <p>The technical assistance has synergistic and complementary value with the silvo-agricultural information and climate risk challenges. Its conclusions and recommendations should be taken into account regarding those challenges.</p> <p>[https://www.ctc-n.org/technical-assistance/projects/design-ecological-response-and-restoration-platform-against-fires]</p>
<p>GCF Project (2020)</p>	<p>FP151: Technical Assistance (TA) Facility for the Global Subnational Climate Fund.</p> <p>This project should be considered as a means to solve barriers associated with the selected technologies on, at least, the water and energy sectors. Since this project is specific to low carbon infrastructure, it can be useful to the TNA process as long as the selected technologies are suitable to be financed by it, so this should be taken into account when prioritizing the technologies and also when defining the TAP's for them.</p> <p>[https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp151.pdf]</p>
<p>GCF Project (2020)</p>	<p>FP152: Global Subnational Climate Fund (SnCF Global) – Equity</p> <p>This project should be considered as a means to solve barriers associated with the selected technologies on, at least, the water and energy sectors. Since this project is specific to certified Climate and Sustainable Development impacts and Nature-based Solutions, it can be useful to the TNA process as long as the selected technologies are suitable to be financed by them, so this should be taken into account when prioritizing the technologies and also when defining the TAP's for them.</p> <p>[https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp152.pdf]</p>

GCF Project (2020)	<p>FP149: Green Climate Financing Facility for Local Financial Institutions in Latin-America</p> <p>This project could yield good results if the project managers are included in the TNA process, because it could allow us to design specific financial pipelines for some of the prioritized technologies in the energy and water sectors.</p> <p>[https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp149.pdf]</p>
GCF Project (2019)	<p>FP120: Chile REDD-plus results-based payments for results period 2014-2016</p> <p>Solving the challenges outlined for the Forestry and agriculture sector, could allow us to enhance the Enabling conditions for ENCCRV implementation, which is output 2 of this project, so this should be taken into account with a view on the next payment periods.</p> <p>[https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp120-fao-chile.pdf]</p>
GCF Readiness (2019)	<p>Update of the National Climate Change Adaptation Plan for the Forestry, Agriculture and Livestock Sector (2019)</p> <p>The technology needed, and the action plan for its implementation, it's the logical step after the activity 2.3.2 of that plan is performed, allowing the country to select the technologies needed for an information system to manage and update climate information linked to the Forestry, Agriculture and Livestock sector.</p> <p>[https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-chile-fao-adaptation-planning.pdf]</p>
Gender Checklist for Climate Change Management Instruments	<p>Lista de chequeo para integrar enfoque de género en los instrumentos de gestión de cambio climático, 2020.</p> <p>[https://mma.gob.cl/wp-content/uploads/2020/06/GENERO-3.pdf]</p>

Development of the request (up to 2000 characters including spaces):

This particular application was developed by the NDE of the CTCN to complete that 2018 TNA process. The Coordination Committee for the Climate Change strategy for Technology Development and Transfer has been involved in the process leading up to this request since 2019. The general terms of this proposal were presented and approved by the Inter Ministerial Technical Team on Climate Change in 2020. Also the NDE had been involved with the CTCN in conversations about this request since 2019.

After the involvement of the gender focal point (2 representatives, one from COP25 Presidency and Ministry of Foreign Affairs), the NDA (Ministry of Finance), the Ministry of Agriculture, sharing TNA experience with the Ministry of Energy and the GIZ, consultation with the Ministry of Public Works, The Superintendency of Water Services and the Ministry of Transport, the request proposal was finalized. The approval of the proposal was made through several meetings, in-document comments and a mailing list until no further comments were made from the representatives previously mentioned or the members of the Coordination Committee for the Climate Change strategy for Technology Development and Transfer. As a final step each sectoral service confirmed their participation and assigned a specific professional to help the implementation of it. Finally the AND reviewed and approved it. By suggestion of the CTCN, and after the approval of internal stakeholders, the proposal will be sent directly to the CTCN. Nonetheless the draft of the Readiness will be supplied alongside with this proposal due to the specification contained in it regarding budget, activities and products.

Please note that the Coordination Committee for the Climate Change strategy for Technology Development and Transfer already has the active participation of the NDE, the Ministry of Environment, the Ministry of Science & Technology, the Development Agency (CORFO), and the National Council for Innovation for Development (CNID). Also, the Inter Ministerial Technical Team has representatives from almost all Ministries and Public Agencies.

Background documents and other information relevant for the request not referenced already on “Alignment with national priorities:”:

- CONAMA (2003): “TRANSFERENCIA DE TECNOLOGÍA PARA EL CAMBIO CLIMÁTICO”.
First TNA carried out by Chile.
[\[https://unfccc.int/tclear/misc/_StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/e787bc73c235439dab02e1fd431e0352.pdf\]](https://unfccc.int/tclear/misc/_StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/e787bc73c235439dab02e1fd431e0352.pdf)
- MINISTRY OF ENVIRONMENT (2016): CHILE’S THIRD NATIONAL COMMUNICATION ON CLIMATE CHANGE TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE
Sector definition was used in the 2018 TNA process that serves as basis for this request.
http://snichile.mma.gob.cl/wp-content/uploads/2019/01/2016_es3nc_chile.pdf

Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name:	Mr. Giovanni Calderón, Executive Director Climate Change and Sustainability Agency
Date:	Please take note of the digital signature at the final page.
Signature:	Please take note of the digital signature at the final page.

