

# SUSTAINABLE ENERGY SOLUTIONS TO FIGHT CLIMATE CHANGE AND IMPROVE LIVELIHOODS IN CAMBODIA

## WOODFUELS IN CAMBODIA: AN UNSUSTAINABLE SECTOR

Firewood and charcoal are the principal cooking fuels for rural Cambodian households. In addition, the garment, food processing and several other industries burn wood as their main source of thermal energy.

The large supply of wood available on the market contributes to artificially low prices, making woodfuels the cheapest source of cooking fuel.

Yet, faced with this huge demand for woodfuels, a formal and legal supply hasn't yet emerged. Most supply chains source fuelwood in a non-traceable way and from non-sustainable sources, without a management plan, partly illegally from the natural forest including from National Parks. Those unsustainable practices result in forest degradation without providing an adequate income for the people collecting and transforming wood. Additionally, these fuels are still widely consumed through non-clean, inefficient processes, with negative impact on the users' health.

**Geres works on developing a sustainable woodfuels sector through two main workstreams:**

### • Reducing the consumption of woodfuels

- Supporting millions of clean cookstoves
- Working with charcoal producers and factories to introduce more efficient practices

### • Supporting sustainable, legal and traceable sourcing

- Working with community forest groups and charcoal producers to collect, register and sell sustainable woodfuels
- Working with the government to digitalise the approval process for sustainable charcoal
- Promoting practical and digital tools to help factories identify sustainable wood



## KEY DATA

- **Biomass Energy** provides 64% of final energy consumption in Cambodia (IEA 2017)
- **Traditional charcoal** consumes about 3.5 million tonnes of forest wood annually (Geres/UDP/ADMIRE 2017)
- More than 300,000 ton of **firewood** a year consumed in garment factories nationwide (Geres 2017& UNDP 2019)
- Woodfuels is a major market in Cambodia : >350 million USD/year (Geres/UDP/ADMIRE 2017)

**geres**  
ACTING FOR  
CLIMATE  
SOLIDARITY

# Our vision: SUSTAINABLE, TRACEABLE & LEGAL WOODFUELS VALUE CHAINS

are in place in Cambodia by 2030. They benefit all stakeholders along the chain and provide a valuable alternative to illegal and unsustainable fuelwood sources. They contribute to reducing Greenhouse Gas (GHG) emissions in Cambodia and to increasing the resilience of ecosystems and livelihoods.

Adopt clear and favourable policy, regulatory and taxation frameworks assuring production, traceability and commercialisation of sustainable woodfuels and enabling investment

Protect and monitor forest core zones and biodiversity

Restore and enhance forest buffer zones to produce sustainable, legal & traceable woodfuels

Sustain forest-related livelihoods and create new income opportunities in rural areas and towns

Adopt energy-efficient and climate-friendly practices, promote sustainable and legal woodfuels to meet households', SMEs' and industries' energy needs in urban and industrial areas

**Local authorities** have better awareness, stronger capacities and organization to mainstream energy transition and responses to climate change challenges in their strategies, development & land use plans and budgets

**Private and public investors & development partners** support and sustain the development of a profitable woodfuels value chain providing social and environmental benefits

**Charcoal producers** source wood from renewable sources and use energy efficient techniques to produce sustainably-sourced legal charcoal complying with international standards

**Farmers and small-land owners** adopt agroforestry and climate smart agriculture practices, diversify their livelihoods and incomes while contributing to legal and sustainable woodfuels supply

**Communities with private and public partners** restore degraded lands, develop strong capacities in sustainable silviculture and manage tree plantations and forests in sustainable ways

**Rural SMEs and local communities** use efficient and clean cooking and processing solutions and sustainable woodfuel to meet their energy needs

**Industries** (including garment factories) produce heat from legal and sustainable biomass, adopt energy-efficient practices and invest in renewable energy solutions

**Urban consumers** increase the demand for sustainable and traceable green charcoal

**Responsible private companies** transport, market, sell and distribute sustainable and legal to end-consumers



Digital traceability systems and close field supervision by relevant authorities ensure wood traceability and compliance with legal framework and sustainability standards all along fuelwoods value chains



Innovative business models link biomass suppliers and consumers, offer a reliable chain of custody and allow optimizing benefits along supply





# HOW DO WE WORK ?

Cambodia is among the most vulnerable countries in the world to climate change

## Territory & Landscape Approach

We design and implement our interventions with all stakeholders at different levels of the major woodfuels value chains. We take into account local dynamics, competing claims on resources and existing policies.

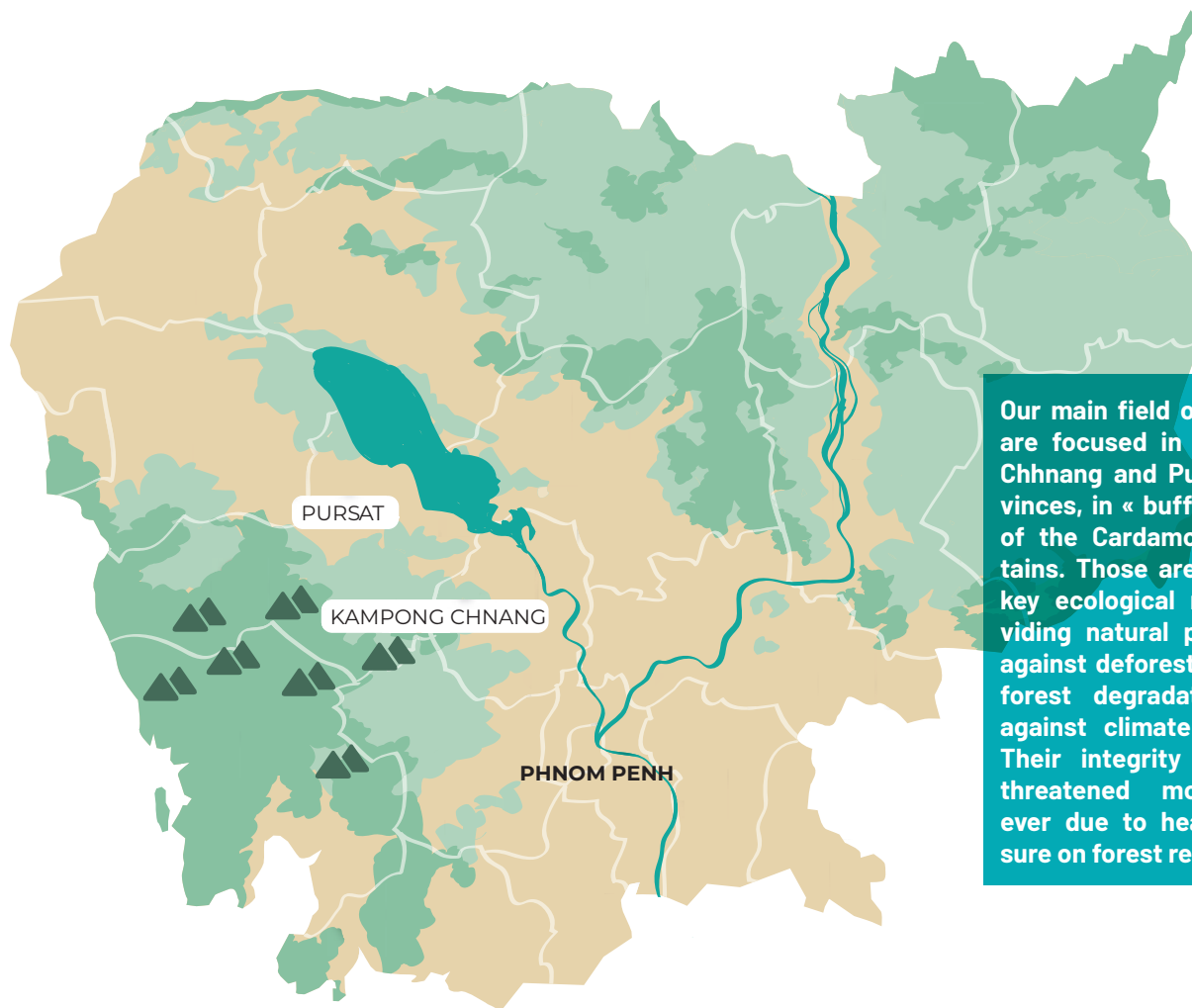


## Partnerships

Geres seeks to build strong partnerships based on two pillars:

➤ **Ownership:** Geres works in partnership with Cambodian institutions, from either the public (at both central and sub-national level) or the private sector as well as member of civil society.

➤ **Expertise and Complementarity:** we recognize the need to partner with organisations and development practitioners working on parallel topics such as biodiversity and conservation, or showing complementary skills such as agriculture, watershed management, responsible production or health and sanitation.



Our main field operations are focused in Kampong Chhnang and Pursat provinces, in « buffer zones » of the Cardamom Mountains. Those areas play a key ecological role, providing natural protection against deforestation and forest degradation, and against climate hazards. Their integrity is today threatened more than ever due to heavy pressure on forest resources.

## Capacity building

Geres ensures stakeholders get access to the skills, know-how and expertise allowing them to become actors of change.

## Economic development

aiming at supporting actors and economic sectors in the creation and sharing of added value, local employment, and more broadly support sustainable development.



# OUR FIELDS OF EXPERTISE

## Scale-up best practices at national, regional and global levels through:

- Design and implementation of climate-financing mechanisms such as Carbon Finance
- Engagement with national policy-makers and global decision-makers
- Creation of multi-stakeholders platforms
- Publication of open source tools and methodologies

## SCALE-UP & REPLICATION

## Conduct participatory assessments:

- Participatory landscape assessments
- Rural energy
- Impact of woodfuels collection on forest degradation via spatial mapping
- Climate trends and vulnerabilities
- Biomass consumption patterns

## STUDIES & ASSESSMENT

## Develop, test and validate new technical solutions & organizational models related to energy consumption considering:

- efficiency
- acceptability
- affordability
- adaptability to local skills

## INNOVATION & PILOTING

## Support the emergence of enabling policy frameworks through:

- Production of data and knowledge for decision-making
- Design of national standards
- Technical assistance to design Low-Emission Development Strategies (LEDS)
- Dialogue facilitation with the private sector
- Design and implementation of Public-Private Partnerships (PPPs)
- Strengthen planning, management and decision-making capacities of public and private stakeholders

## ENHANCEMENT OF POLICY NETWORK

## MARKET ACCESS

### Create market conditions for large-scale adoption of sustainable energy solutions:

- Design of innovative social marketing and effective below-the-line mechanisms to reach remote consumers and contribute to behavior change of consumers in urban areas
- Raise awareness of corporates and institutions on climate change through carbon audits and Corporate Social Responsibility (CSR)

## PRIVATE SECTOR ENGAGEMENT

### Design profitable business models along the value chain:

- Strengthen links between (i.e producers, distributors, retailers and final customers)
- Build technical and business skills
- Facilitate product and process improvement through technology and knowledge transfer
- Facilitate access to finance by partnering with local (i.e MFIs) and international actors (i.e Impact Investors)
- Facilitate the creation of cooperatives and business associations
- Incubate social enterprises from promising programs



# PROJECTS

Over the last 5 years, Geres' projects and activities were developed in close cooperation with Cambodian national counterparts together with local and international partners. Our actions have enabled considerable achievements towards socially-inclusive and more sustainable biomass value chains in Cambodia. During this period, the projects portfolio reached 3 million USD repeat of reaching. Suggest positively impacting 100 000 people thanks to the support of international public and private donors together with our organization's core funds.

**Supporting Sustainable Supply Chains in the Domestic Energy Sector (SEFED)**  
Agence Française de développement  
2016-2019

**Improved Cookstove Producers and Distributers Association of Cambodia (ICoProDAC)**  
The Blue Moon Fund & Geres Core Fund  
2015-2017

**Nationally Appropriate Mitigation Action (NAMA- Sustainable Charcoal)**  
UNEP-DTU  
2015-2017

**Climate-Energy: Adaptation and Mitigation Measures in Rural Landscapes- (CEMAATERR 1)**  
Agence Française de Développement  
& Maisons du Monde Foundation  
2016-2019

**Promotion of Improved Cookstoves in Kampong Cham province**  
Ministry of Mines and Energy  
2014-2016

**Sustainable Thermal Energy and Alternative bioMass in the garment industry (STEAM)**  
Cambodia Climate Change Alliance, H&M, WISONS  
2018-2019

**The Supply Chain and Landscape Approach in the Eastern Plains Landscape of Cambodia (SCALE)**  
WWF Sweden  
2018-2019

**Fuelling the low carbon development of Cambodian manufacturing industries by valorizing agro-industries' biomass residues into energy**  
Cambodia Climate Change Alliance,  
Rockefeller Brothers Fund  
2016-2018

**Building Adaptive Capacity through the Scaling-up of Renewable Energy Technologies in Rural Cambodia (S-RET)**  
Royal University of Agriculture & International Fund for Agricultural Development  
2018

**Feasibility Study for a Credit Line Programme for Energy Efficiency project in manufacturing industries**  
Ministry of Mines and Energy & Agence Française de Développement  
2018







## GERES AT A GLANCE

Set up in 1976, Geres is an international development NGO which works to improve the living conditions of the poorest and tackle climate change and its impacts. As a grassroots actor, the energy transition is a major lever in all its actions. In order to drive societal change, Geres promotes the development and dissemination of innovative and local solutions, supports climate-energy policies and actions and encourages everyone to commit to Climate Solidarity by taking action and supporting vulnerable populations.

Geres is active in Cambodia since 1994.

“Geres promotes the development and dissemination of innovative and local solutions, supports climate-energy policies and actions and encourages everyone to commit to Climate Solidarity”

## Our partners



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