



Scotch Whisky industry

Scotch Whisky Association (SWA) & Scotch Whisky Research Institute (SWRI)

SUMMARY

INTRODUCTION

The SWA commissioned SWRI to deliver a scoping study to assess the risks of climate change to the sector and identify initial adaptation options. Following this, SWA held an industry workshop to raise awareness of climate change impacts and adaptation within the sector, share information and experience and generate ideas for how SWA and SWRI could work to build the adaptive capacity of the Scotch Whisky industry.

KEY MESSAGES

- The research found that the Scotch Whisky industry, along with all process-based industries, faces potential risks from projected future changes in the Scottish and global climate.
- This includes some less obvious impacts on the profitability of Scotch Whisky production.
- As an industry with a long-term focus, the sector is already collectively undertaking a range of adaptation actions to tackle the impact of climate change. Further steps could be taken to adapt practices, strategies and infrastructure.
- The main priority is to raise awareness of specific business risks and build capacity within the industry to enable individual companies to adapt successfully.
- The overall aim is to ensure all companies include risks from climate change into their Business Risk registers.

ABOUT THE ORGANISATION

SWA is the trade association for the Scotch Whisky industry. Its aim is to promote, protect and represent the interests of the Scotch Whisky industry in Scotland and around the world. The SWRI is also a membership organisation, providing a centre of scientific excellence dedicated to the needs of the distilled beverage industry.

Scotch Whisky producers must look to the long term. By law, to be called Scotch, spirit has to mature for a minimum of 3 years in a warehouse in Scotland and most well known brands contain Scotch far older. The industry recognises the need to protect maturing stocks and ensure a sustainable supply of cereals and other supplies. The need to preserve traditional production practice is critical as, together with quality, it underpins the reputation of Scotch Whisky worldwide.

The industry saw the need to work collaboratively on this project as inter-company whisky trading allows hundreds of complex blends to be produced. To protect strong global brands, through the SWA, the industry saw an opportunity to ensure that the whole sector moved forward collectively to understand and act on climate change risks.

The sector has recently published an environmental strategy which sets ambitious targets to minimise the industry's environmental footprint. This led the industry to try and better understand how the changing global environment may impact the sector. The industry has a long tradition of working together and sharing best practice. This research builds upon these strong foundations.

METHODS AND RESOURCES

Consultants at AEA were commissioned to carry out a study looking at both adaptation to climate change and mitigation opportunities. Their research methods involved:

- Interviews with individual distillers;
- A workshop to assess the risks and impacts of climate change on the sector;
- The use of published analysis and research into past and future climate trends.

A further industry workshop was then held, which involved:

- Presentations providing information to members on climate change impacts in Scotland, the research findings and available tools and resources to help businesses adapt.
- Breakout sessions which a) gathered further information, including some of the site-specific experience of past weather events to help build a picture of industry vulnerability and b) generated ideas for how SWA, SWRI and others could help to build adaptive capacity.

KEY PLAYERS

- SWA
- SWRI
- AEA
- UKCIP
- SCCIP
- Scottish Government

CURRENT VULNERABILITY

- Low flows in rivers have affected a number of sites in recent years.
- Raised summer temperatures elevate water temperatures making the spirit production process less efficient.
- Too little snow impacts groundwater recharge, which affects the water available for production. Too much snow and ice has challenged the integrity of warehouses in the north of Scotland, causing operational and supply chain disruptions.
- High tides and stormy seas can disrupt ferry services to islands for several weeks each year causing raw material delivery problems, fuel supply issues and difficulty in shipping finished goods.
- Recent cereal price variability and peaks have been partly caused by climate related issues (e.g. Australian droughts in 2008) and restricted water availability in some areas provide glimpses of the potential impacts of climate change in future.

KEY CLIMATE RISKS

The following are some of the climate risks identified in the research:

- The supply and quality of cereals, especially barley, is likely to be impacted by changes in future precipitation, flooding, drought and plant disease.
- Increased winter precipitation and storminess might lead to flooding of barley fields, warehouses, distilleries, roads and suppliers' premises.
- Likewise, the timing of heavy rainfall and the gradual disappearance of spring snow-melt could affect the quality and quantity of burn and reservoir water.
- As a result of droughts, water sources will occasionally be reduced to such low levels that regulatory authorities might prohibit abstraction for process and cooling. Higher water temperatures (the result of both low flows and higher air temperatures) would make cooling less efficient. Effluent discharges could also be restricted due to low flows and high water temperatures. Meeting global demand for Scotch could be increasingly difficult under such conditions, using the existing water infrastructure.
- The traditional processes of malting, distilling and maturing whisky, which have evolved during a more or less stable climate over the last few hundred years, are temperature sensitive and will therefore be affected by changes in the Scottish climate.
- More extreme, short term weather events will have a significant local disruptive effect on the Scotch Whisky sector.

EXISTING ADAPTATION

Some climate-sensitive risks are already considered in risk management procedures by distillers, including risks to raw materials supply and health and safety. Scotch Whisky companies are used to responding to subtle changes in the weather, for example by:

- investing in sea or flood defences;
- engineering the landscape surrounding their distillery to reduce flood risk;
- working with SEPA to ensure appropriate regulation of local water supplies to distilleries whilst safeguarding the environment;
- investing in medium to long-term research to ensure that climate resistant cereal varieties are available and communicating the industry's needs to plant breeders and grain merchants;
- improving water efficiency;
- investing in process efficiency measures.

However, climate change cannot simply be seen as a continuation of previous weather events; many impacts will be significantly more intense, more frequent or incomparable to previous experiences.

The SWRI has carried out a range of relevant research that will provide useful, detailed information to decision-makers within the industry who are looking at climate risks, including impacts on cereal quality and temperature effects on maturation.

OUTPUT / ACTIONS

- The research report provides SWA/SWRI members with some information to use within their own risk assessments.
- The workshops have raised awareness and directed members to more sources of information and resources.

FURTHER ACTION

- The SWA and SWRI are using the outputs of this study to inform and shape their ongoing research programme.
- Both organisations are taking opportunities to raise awareness within their memberships of the findings of the report. Member companies are being encouraged to use the report to inform their own company-level risk assessments. This may be an effective way of securing company-level funding to invest in adaptation as budgets are frequently driven by corporate risk assessments.
- The report will be used as a platform for both organisations to continue and strengthen relationships with governments, regulators, suppliers and customers and share information on current and future climate risks.
- SWA members are encouraged to take up the offer of free UKCIP support to work on adaptation.

At an industry level, SWA and SWRI are considering how they could build adaptive capacity, for example by:

- Generating better information/ knowledge on impacts at an industry level, taking into account socio-economic trends and tailoring climate information so that it is more useful;
- Providing guidance and support e.g. training for business continuity managers;
- Facilitating sharing of information/ experience, such as on site-specific experience e.g. through seminars, developing case studies etc.;
- Lobbying regulators for better support.

ANALYSIS

CONSTRAINTS

Some constraints to adaptation were identified in the research report:

- Industry experts find it easier to relate to projections of future impacts of which they have some experience (e.g. floods) but find it more difficult to assess implications of 'new' climate events, such as heat stress or drought.
- Managers are also more likely to take early action where there are direct impacts on the site or production process, at the expense of impacts on the supply chain or during distribution of the final product.
- Currently the focus within the industry, along with all process-based industries, tends to be on mitigation and carbon regulations rather than the long-term impacts of climate change due to the ongoing uncertainties of what the actual future impacts will be.
- It is difficult for any business to secure capital for investments with payback periods in excess of three years. Given the long-term and variable nature of climate risks, many cost-effective adaptation investments will have lengthy payback periods. There may be a reluctance to invest in adaptation, given the uncertain and unconventional nature of the risk. This problem could be exacerbated by the current global economic situation.

ENABLERS

An industry well used to looking to the long-term.

SWA/SWRI member companies devoted sufficient time and resource to the project and industry staff (from a range of disciplines) were encouraged to attend the workshops and actively participate. This allowed a thorough and focussed participation.

The industry workshops involved members from across the industry including some smaller companies.

In parallel to the climate change research, the industry was developing an environmental strategy driven at board-level in the SWA. This meant that there was a high-level of engagement in industry sustainability matters from across industry disciplines.

The involvement of SCCIP and UKCIP support alongside the research work was valuable. It has helped SWA/SWRI maintain interest and engage companies since the publication of the report in 2009.

The industry see the development of the UK Climate Projections (UKCP09) as an opportunity to proactively plan it's future investments and ensure they are climate-proof.

TRANSFERABLE LESSONS LEARNED

- Trade Associations have an important role to play in awareness raising within sectors and taking forward generic research. However company-level and site-specific impacts must be owned and championed by individual companies. Strategies and solutions must be tailored on a site/company level.
- It is important to gain high-level support for such forward thinking and proactive research to allow company staff to devote sufficient time and quality input.
- It was important to spend sufficient time at the outset of industry events on adaptation to ensure a common understanding of what the research was trying to achieve. Adaptation was frequently confused with mitigation. It was important to align expectations of the work at the very start.
- There is a wealth of information freely available (e.g. via UKCIP and SCCIP) on the probable impacts of future climate change.

CASE STUDY PROFILE	LOCATION	Scotland
	SCOPE	Sector
	SECTOR (BASED ON SIC 2007 CODE)	Manufacturing
		Food and drink
		Membership organisations
	DATE	February 2011
	BUSINESS AREAS	Premises
		Processes
		Logistics
	RISK / OPPORTUNITIES FOCUS?	Both
	CLIMATE CHANGE/ weather event focus	HOTTER, DRIER SUMMERS
		MILDER, WETTER WINTERS
		MORE HEAVY RAIN
		Heatwave
Drought		
Flood		
Cold snap		
BUILDING ADAPTIVE CAPACITY OR DELIVERING ADAPTATION ACTION	Storm	
	BAC	
CONTACT DETAILS	Morag Garden, Scotch Whisky Association	
REFERENCES, WEB LINKS ETC	Scotch Whisky Association website	