

The initial response of fishers had been to build in more fuel capacity, more deck space, more fish-hold space and more crew accommodation, creating wider, taller vessels: some boats not quite 20 metres long were more than nine metres wide and nine metres deep. These blunt boats were harder to push through the water and further increased resistance by “dragging” water behind them because of a significant amount of immersed transom.

Part of the response has been a series of workshops, presentations and fact sheets, information relevant in Australia as well, and which fishers (and fisheries managers) can access thanks to the internet. Go to the Canadian Centre for Fisheries Innovation (CCFI) website at www.ccfi.ca and click on “Fishing Vessel Energy Efficiency Workshops”.



Like a number of speakers, Christian emphasised the value of reducing speed to reduce fuel costs. One of the CCFI facts sheets (“Reduce Speed, Save Fuel”) adds some real-life numbers to the theory: reducing steaming speed in a 19.8 metre trawler from 10 knots to eight knots in a 100-nautical-mile voyage cost two-and-a-half hours in time but saved 600 litres and \$600 in fuel.

The team has begun a new project focused on further work to make the existing fleet more energy efficient. Initially, they are mapping energy consumption patterns of the fleet by collecting data from seven representative vessels, which have been fitted with fuel meters, weather stations and motion sensors.

“The cost of possible improvements will be estimated and the payback periods and return on the investment calculated to make possible a rational business approach to improving energy efficiency. It is clear that this project will bring to light various operational practices that would be beneficial to change in addition to those that have already been identified.”

And the future? “The larger, long-term challenge is to find ways in which to make machinery systems that are more energy efficient and not so dependent on fossil fuels as an energy source,” Christian said. “Hybrid systems, fuel cells, wind power and solar energy are all avenues that need exploring and further development before any significant amount of practical application of these technologies is likely.”

Listening to these and other presentations, Australian fisher (and FRDC director) Stuart Richey lamented the absence of fisheries managers at the conference. “While they may not have felt they could have much input into a conference focused very tightly on engineering and gear technology, they certainly would have picked up a lot of information about what poor fisheries management can do to create inefficiencies in a fishing fleet.”

EUROPE AND NORTH AMERICA FOCUS ON SMARTER FISHING

As in Australia, researchers in Europe and North America continue to work on smarter fishing techniques and better use of technology to cut costs and boost returns, and via the internet, operators here can keep up to date with the latest overseas developments.

The E-Fishing conference in Vigo, Spain was the venue for the launch of a new European initiative, the European Fisheries Technology Platform, or EFTP, an event that attracted considerable media attention in one of the largest fishing ports in Europe's largest fishing nation.

Senor Javier Garat, President of Européche (the Association of National Organisations of Fishing Enterprises in the European Union), said the EFTP had been set up to bring together all fisheries research, technology, development and innovation (RTDI) projects, encourage innovation throughout the seafood value chain, and so promote the sustainability, efficiency, selectivity and profitability of Europe's fishing industry.

Europêche is an industry organisation of shipowners, fishers and employers, founded in 1962 that has 18 member organisations from 11 countries (Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Poland, Spain, Sweden and the United Kingdom). It is the seafood industry peak body in Europe.

Sr Garat said EFTP's first task was to identify the key challenges up to the year 2025 for fisheries and fishing technology, and to develop and implement an RTDI strategic agenda. "Essential to achieving the goals of this strategy will be establishing a consensus on future research directions and mobilising a critical mass of public and private technical, human and financial resources," he said.

"The EFTP will integrate the whole value chain based on fishing activities in Europe. It will include fishers, processors, gear suppliers and associated industries, along with research centres, industrial stakeholders, universities throughout Europe, representatives of European Union member states and trade unions."

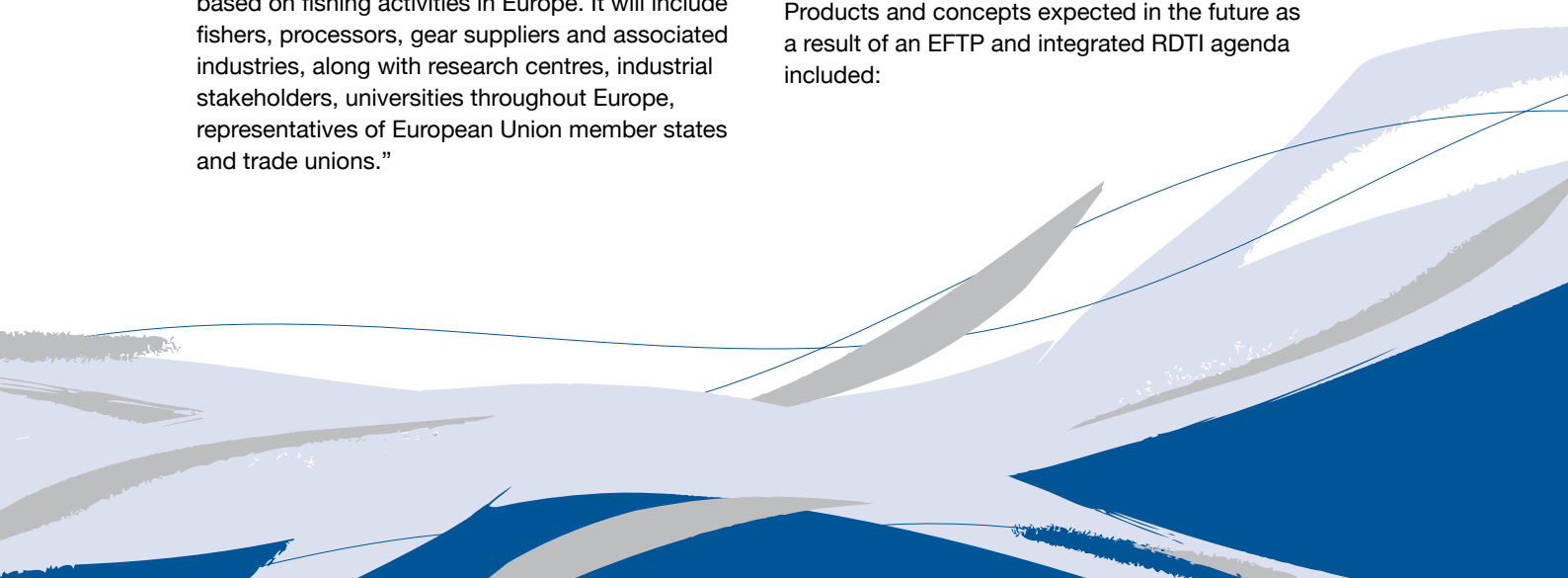
He said more than 30 organisations had already joined the EFTP. The EFTP structure would include a board of directors, secretariat and six working groups covering: sustainability and management; energy efficiency; fishing vessel technology; fish and shellfish product technology; fishing gear technology; and building trust from catch to consumer.

Helping to launch the new European Fisheries Technology Platform to an audience of E-Fishing delegates and international media was Christian H. Engh, President of Norway's Mustad Longline, one of the first industry partners to sign up. He said past RTDI efforts had produced more efficient fishing gear catching more fish in less time with fewer people involved.

"Today, a paradigm shift is well underway. Efficiency alone is no longer enough. Other factors, such as sustainability in fish stocks, emissions and quality issues, are having a far stronger voice," he said. "As a supplying industry, we can see this shift in paradigm in two different ways: as a threat or as an opportunity. I think we should go for the opportunities, opportunities that mean a new wave of RTDI initiatives for solutions that optimise catch efficiency *with quality*, sustainable fishing practices and low carbon emissions."

Mr Engh said the EFTP could spur a new wave of highly necessary innovations. "Product development will still be customer-driven but having a common research agenda within Europe will fuel the R&D activities in the supplying industry. It will also align the efforts between sectors such as vessel design, building, fishing gear technologies, processing and downstream activities. Best practices within other areas of the maritime sector will also be applied, such as low emission power engines and composite materials.

Products and concepts expected in the future as a result of an EFTP and integrated RDTI agenda included:



- a new platform of high-tech vessels, combining state of the art technologies in the maritime sector with the particular needs for a fishing vessel;
- gear solutions that dramatically reduce energy consumption and carbon emissions, and maximise fish quality and enhance selectivity;
- handling and storage systems that optimise on-board capacity and have a stronger focus on crew health and safety;
- traceability systems ensuring full transparency and traceability throughout the entire value chain “from sea floor to plate”; and
- innovation in the coastal fishing sector and medium sized fishing fleet, “which probably has the most to gain from converting to the new paradigm of quality differentiation, low emissions and sustainable fishing practices”.

To track developments in the EFTP project, go to www.eftp.eu (and for more information on Europepeche and its work, go to <http://www.europepeche.org>)

EU energy efficiency project

Meanwhile, a separate European Union program is continuing. This is the European Commission’s “Energy Efficiency – Fisheries” (EFF) project, which a spokesman said was “designed to facilitate the exchange of ideas and best practices on how to improve the energy efficiency of fishing and reduce energy costs”.

It has a website linking to: scientific studies and reports on energy savings in fisheries; general information on research and funding opportunities; and relevant EU projects, legislation and events. It currently lists information available from a number of organisations, including the Energy Federation of New Zealand, the European Union, the UK seafood authority Seafish, the International Council for the Exploration of the Sea, the United Nations Food & Agriculture Organization (FAO) and FRDC (*Energy Efficient Fishing: A 2006 Review*).

For information on the EFF project, go to <https://energyefficiency-fisheries.jrc.ec.europa.eu>



And in the US ...

The US Federal Government's National Oceanic & Atmospheric Administration National Marine Fisheries Service (or NOAA Fisheries Service for short) has launched an interactive online open to everyone interested in energy saving in fisheries.

This network has been established in the run-up to an international conference being hosted by the NOAA Fisheries Service in November in Seattle, Washington: "Energy use in Fisheries: Improving Efficiency and Technological Innovations from a Global Perspective". It will continue after the conference.

NOAA Fisheries Service spokesman Christopher M. Moore said energy costs were a critical concern for those involved in the wild capture and production of fish, and an increased interest in the environmental costs related to increased energy use also had an indirect effect on fisheries and aquaculture production, communities dependent on fisheries, seafood processing and the retail sector.

"The symposium will provide a forum for commercial and recreational fishermen, processors, engineers, boat and engine developers, aquaculturists, fisheries managers, administrators, scientists, and others from round the world to meet, address both the direct and indirect effects of energy costs related to fisheries, and share solutions.

"Symposium results will include a set of alternative operational and management strategies to reduce the carbon footprint of commercial and recreational fishing fleets, demonstrated strategies of potential financial gains through reduced energy use, the potential role of governments in reducing the carbon footprint associated with fisheries and aquaculture, proposed sustainability certification criteria for seafood products related to energy efficiency, and a set of metrics to be used to measure the level of energy reduction or improved environmental efficacy of different fuel types used by fishing fleets."

Christopher said the online network would serve as a professional forum to address both the direct and indirect effects of energy costs related to fisheries. "It is intended to improve energy efficiency, reduce energy costs, and reduce the carbon footprint of global fisheries and aquaculture production by facilitating the exchange of energy-related information between the developed and developing countries and across industry sectors."

Log into the network at <http://energyefficientfisheries.ning.com> (and for more information on the NOAA Fisheries Service, go to <http://www.nmfs.noaa.gov>).

Canadian innovation

Information on energy use reduction strategies in Canada is available on the website of the Canadian Centre for Fisheries Innovation (CCFI), a non-profit organisation owned by Memorial University of Newfoundland. The CCFI describes itself as "providing the tools of scientific research and technology to the fishing industry".

Going to the CCFI home page and clicking on "Fishing Vessel Energy Efficiency Workshops" will bring up a series of more than 20 presentations or fact sheets covering topics ranging from the benefits of a bulbous bow and fuel conservation strategies to fishing gear efficiency and cost cutting through reducing vessel speed.

The site for the Canadian Centre for Fisheries Innovation is at <http://www.ccfi.ca>

