Given any closed Riemannian manifold M, we construct a reversible diffusion process on the space $\mathcal{P}(M)$ of probability measures on M that is

- reversible w.r.t. the entropic measure P^β on $\mathcal{P}(M)$, heuristically given as
$$dP^\beta(\mu) = \frac{1}{Z} e^{-\beta\, Ent(\mu|m)}\; dP^0(\mu);$$
- associated with a regular Dirichlet form with carré du champ derived from the Wasserstein gradient in the sense of Otto calculus
$$\mathcal{E}_W(f) = \liminf_{\tilde{f}\to f}\; \frac{1}{2}\int_{\mathcal{P}(M)} \|\nabla_W \tilde{f}\|^2(\mu)\; dP^\beta(\mu);$$
- non-degenerate, at least in the case of the n-sphere and the n-torus.